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ART. I.—*Notes on Anhæmia,* principally in its connections with the Puerperal State, and with Functional Disease of the Uterus; with Cases.* By W. CHANNING, M.D.

Without Blood.—This name may have been given to the disease, either on account of the colorless state of the skin, of the want of blood, or of its altered condition. So it may express an external symptom, or the quantity, or the quality of the blood. A name may mislead. Thus it may express what does not exist in a disease, or exist only after such a manner as not to deserve to give a name to the malady. Probably the only reason why the present name, which expresses either a certain symptom, a certain supposed state, or quantity of the blood, remains attached to the disease, is the obscurity of the pathology of the disease itself, and so it may be at this time quite unimportant how the malady is designated. I do not like the name, but I have no better one to substitute for it.

CASES.

CASE I.—The earliest case I remember to have seen of anhæmia, was in a young man. It was chronic. He continued walking abroad a long time. He was *emaciated*, and his appearance differed not from phthisis. It was before the discovery, or use here of aus-

* "The specific name for this disease is sometimes written *Anæmia*, but incorrectly."—*Study of Medicine.*

cultation, and of other means of ascertaining the physical signs of that disease, and it was very probably considered to be such. He died, and I was present at the examination after death. No other morbid organic appearance was noticed than an emphysematous state of the lungs, altogether insufficient to explain the phenomena during life, or to account for the death.

Case II.—S. H., an unmarried female, aged about 20, presented anhæmia in a chronic and very severe form. Originally her disease was acute hysteria. Its prominent symptoms were a suffocating dyspnœa and a palpitation, which, to her, threatened life. There were severe headache, intolerance of light, acute hearing, rapid pulse, emaciation slight if any, &c. &c.—in short, the whole *mimosis* of hysteria. I have rarely if ever met with an instance more strongly characteristic of a state which brings with it intense suffering to its subject, or which may more deeply alarm the medical attendant. What is worst about it is the control it insensibly obtains over the medical attendant. After a time this may become so complete, that his whole course of medication will be resolved into the will and pleasure of the invalid. This had doubtless been the case in the present instance, as we shall by and by see.

I asked what had been the treatment. She said, mainly, bleeding, and added that she had been bled *ninety-six* times in *two years and a half*. Anhæmia here, as the word imports, was at once accounted for, and instead of admiration at the marble-like, living statue before me, the only wonder was that she lived at all. It was quite clear if any thing could be done for S. H., it must be brought about by an abandonment of a course which had been so ruinous, and which must soon end in death. I directed such means as would tend to make her present comparatively comfortable condition permanent, or at least diminish the severity of a succeeding paroxysm. It was especially ordered that blood-letting should be omitted, unless things grew so bad as absolutely to threaten life, and other things wholly fail to relieve suffering, or remove danger.

She was free from intense suffering for some days. There was at times less than the usual suffering. But it threatened to return. The troubles in the head and chest began to show themselves, and the old remedy was asked for. It was refused, and so it was when demanded with an emphasis rarely met with, and at length death seemed to be so nigh, the distress so great, and the responsibleness made so heavy and painful, that bloodletting was directed. The quantity was strictly limited to *eight ounces*. This was probably too large. A

vein was opened. The blood burst from the orifice across the room, as from a punctured artery, and was of a bright arterial color. The quantity ordered to be taken was reached almost at once, and the ordinary means employed for checking the bleeding. The ligature above the elbow was loosened, and removed, without checking the rush of blood, and though great care was taken by compresses and firm pressure to stop it, more, much more blood was lost before this was done, than was taken directly by the operation. She was relieved.

Soon after this, this young woman passed out of my notice, and not long after, and in the midst of unmitigated suffering, she died. The body was carefully examined, and nothing morbid was discovered. The heart which had been for so many years the seat of so much, and so severe disturbance, was in a perfectly natural condition.

Case III.—Mrs. Q. This case was not connected with pregnancy. It followed menorrhagia, and it presented the ordinary symptoms of anhæmia in a severe form. I have rarely known the flesh so well preserved amidst symptoms so grave, and a confinement so long. There did not seem to have been positively any emaciation whatever produced. The loss of strength was complete. She recovered.

Case IV.—Mrs. M. This case followed confinement, but so many months after, that it may be questioned whether it grew out of the puerperal condition. Mrs. M. recovered from this state perfectly, and about three months after, had an attack of disease in the chest, which from the description was pneumonitis. Anhæmia followed. The whole symptoms in Mrs. M.'s case resembled Q.'s. There was the same appearance of health in regard to roundness or flesh—the same state of skin, the same loss of strength, and noises in the head compared to the same sounds. Mrs. M. recovered. She has been confined since without the least appearance of anhæmia.

Here are four cases of some interest, from the connection in which they stand with each other, and with those which follow. One of them occurred in a young man—was chronic, was fatal, and for a long time of it, resembled, in its extreme emaciation, phthisis. The next was an unmarried young woman. In her, anhæmia followed bloodletting very rapidly repeated, and which was done for symptoms too, viz. of hysteria, which ordinarily depend neither on a condition nor lesions, which are usually treated by, or are benefited by, bloodletting. But let that pass. Hers was a *chronic* case, and without *emaciation*, though the food eaten was, from perfect loss of ap-

petite, as small in quantity as it well could be. The hysteric complication gave new interest to this case. I remember nothing like it in any other case of pure anhæmia. On the contrary, in the latter, absolute stillness of manner, natural in its whole character, and often natural cheerfulness, accompany the disease to its very close; the patients only expressing surprise that death was coming with approaches so gentle as hardly to warn them of its nearness. The two other cases, Mrs. M. and Mrs. Q., were perfectly well marked. They presented no better prospect of recovery than the others. They were unconnected with the puerperal state, as were the preceding, and the others had been fatal. The interest in these is found in the recovery; and a question would naturally arise, how far this depended on the condition, the previous condition of these women, and how far on any other fact in their physical state?

I have, at this writing, three other cases under treatment, both of them following uterine hemorrhage unconnected with labor, in which the symptoms are well marked, though not extreme. In one of these they have come on in the midst of long-continued uterine derangement. In another the time has been shorter, but the patient is greatly exhausted by constant attendance on a long sick child, and by the mental anxiety accompanying it. In a third, probably the catamenia may be about to cease, and the irregularity of the function, with its occasional excess, may explain the anhæmic symptoms. I will briefly give these cases.

Case V.—Mrs. W., aged 40. Severe catamenial period two months ago. Excessive flooding. Nothing like a product of conception passed, and she had been before regular. Last period, nothing unusual. In addition to exhaustion, just before present period, has come from the country over a very rough road. I was called to see her, and could not but be struck with her apparent bloodlessness. I had often seen her for a few days before, and had noticed how very pale she was. I found her suffering uterine hemorrhage at the catamenial period, and that it had been going on for several days. She was perfectly blanched; skin, lips, tongue, every visible texture absolutely white. Mrs. W. has more flesh than most women, though less than a year ago. Is confined to bed. The least motion produces a gush of blood. The most distressing symptoms are palpitation, and a sense of beating, or rather thumping, in the head. The superficial veins, as is almost always the case, in this state of things, are most visible on inside of wrist. They present the appearance of

bright pink or rose colored lines just beneath the skin. Some of them seem flat, not the round tubes of vessels.

The treatment consisted in using the plug, and the exhibition of the different medicines which are employed in such cases. She was slowly recovering when I last saw her, and soon after returned to her residence in the country.

Case. VI.—Mrs. L., 43, has children—has had menorrhagia for several periods. From the occasional irregularity of the function, both in time and quantity, she believes it is about permanently to cease. But in the mean time, she is feeble, exhausted, has symptoms of prolapsus uteri, is very pale, has palpitation, is easily disturbed by outward things and occurrences—bloodvessels present an appearance exactly similar to above case.

Case VII.—Mrs. B., aged 21, has three children ; married between fifteen and sixteen. Menorrhagia excessive, skin very pale, is confined to bed, not emaciated, palpitation, carotids beat violently, blood in vessels like that above described.—I might add easily to these cases, and from very recent observation too ; but they will suffice to show how strong the anhæmic tendency may become from excessive uterine action alone, though connected with a periodical function, and how comparatively safe it is when regarded with the true disease which attends pregnancy or follows delivery.

I pass now to a different class of cases. These have connection either with pregnancy, or the puerperal state. At least, they occurred during one of these states, or having begun in the first, the disease has continued into the second. As far as I have seen the disease in these connections, it has been always fatal. I have not seen in it, in any part of its course, any such change as would mislead any one acquainted with it, in regard to the result. I have heard of a case of recovery in a well marked example. I asked of the medical attendant what were its symptoms, and what had been its treatment. He had seen many of the cases of which I shall speak, and could make comparison of them with his. He said he could recollect nothing in the treatment of which he could speak, as having any special agency in bringing about the result. It was a well marked case—had been treated as others had been, and had recovered. He added that after a subsequent labor, anhæmia began to show itself, but which yielded to treatment. I shall not give cases in detail. They resemble each other so closely that they would be little else than a repetition of one

another. I shall except a single case, reported by a deceased friend,* whose life and example were most dear to me, and the memory of which will never fade away.

Cases VIII. IX. X.—The first cases I met with, occurred in the practice of Dr. Spear, late of Dedham. He had seen in all, five cases up to the time at which I was called. Four of them were fatal. I saw three of them. In all these, the bloodlessness was extreme. The animal functions seemed not in the least impaired. There was no emaciation. The pulse was rapid in all. There was very little suffering; at least, there was very little complaint. I remember with great distinctness the remarkable placidness of expression of one of these women, when she and her physician felt assured that without any such obvious symptoms as ordinarily accompany the certain approach of death, she could live but a very short time longer. She soon died, and without any striking precursory change.

Case XI.—By a somewhat curious coincidence, while I am writing I have received a letter from a physician of Dedham, Dr. Carpenter, in a postscript to which is the following. After desiring me to see this case, he says, "I have a case of anhæmia in Spring Street, Mrs. W——. She was confined three weeks since—does not nurse child—had a small abscess in left breast opened to-day—no appetite." This letter is dated June 20th. Mrs. W., I am informed, died next day. Since above, I have seen Dr. C. He stated the symptoms and treatment. The stomach soon failed, and at the close there was diarrhœa, under which Mrs. W. fast sunk. A prominent symptom was tumultuous action of the heart. The treatment consisted mainly in the employment of such nourishment as the stomach would receive, and of stimulants. The only or principal food that did not produce great distress, was liquid farinaceous. The failure of appetite was such as to make it impossible for her to take other food. Of stimulants permanent and diffusible, all such were used as promised any benefit. She retained her mind unclouded to the last.

The following case came into my possession after the death of its lamented reporter, Dr. J. G. Stevenson. It is full of interest. It presents the history of a case of anhæmia, with extreme particularity, and as it was a perfectly well marked one, the reader may derive from it highly useful knowledge of the disease itself.

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* J. Greely Stevenson, M.D.

Case XII.—"Mrs. H. was confined on the 15th December, 1832. She was a woman of robust appearance, and somewhat uncommon bodily vigor. For some months before she had suffered under an inflammation of the bronchial mucous membrane, which hardly called for medical treatment, except once in July, when cough and dyspnœa were a little urgent, and were relieved by a moderate bleeding at the arm. With this exception she may be said to have passed the period of pregnancy in good health and condition.

She was confined on the 15th December at 5 o'clock in the morning, under the administration of a midwife. She flowed a good deal; though not to a very uncommon extent, nor without healthy uterine action; for all the blood lost was expelled by afterpains; and nothing occurred to excite alarm in the mind of any one of her attendants.

She passed the 16th day of the month comfortably; and the next morning took a dose of castor oil.

18th.—I was called to see her this forenoon. The oil had operated seven times. She was very pale; had a pulse of 120, with considerable action; complained of faintness, not proceeding to syncope, and of headache. Her cough was frequent, with a free mucous expectoration. The tongue was clean; the lochial discharge was natural, and milk was secreted.

19th.—In the afternoon she had alternate flushes and chills, with sweating and nausea. She is annoyed by a pulsation in the head, breast and arms. The skin is warm and very moist. The face, lips and tongue are pale. She is thirsty. Pulse continues 120, and cough is frequent; for most of the day the urine was scanty, rare, and passed with some difficulty.

20th.—She slept most of the night. The skin continues very pale, the extremities are coldish, the hands are numb. The headache and other symptoms continue; the desire to pass urine is almost constant; there is hoarseness, and in the evening there is a slight tendency to delirium. The abdominal parietes are very flaccid; the uterine tumor is hard, firm, and rather long. There is not any soreness or unnatural condition of the vagina or uterus, so far as they can be explored. The urethra is uncommonly large.

21st.—The greater part of the night was passed in sleep. During the day thirst was quite urgent; the headache continued; there was some impatience of light; the pulse was 120, in the evening rising to 124, and being large and strong. Some diarrhœa came on in the forenoon, the dejections being thin, yellow, and preceded by some

griping pain. The surface of the body was colorless and waxen; and while the vesication produced by two blisters, which were applied yesterday and this morning, was complete, and the cuticle was raised over their whole extent, no redness was produced in the cutis.

22d.—She slept most of the night. Throughout the day the headache was less; light was painful, and the pupils were much contracted. The pulse remained steady at 120, with a quick and strong beat. The sweating ceased, and the cough was much diminished. In the forenoon there was a sensation of bearing down, as at the approach of her catamenial discharge, which did not last long. And in the afternoon, after some bodily exertion and an effort to evacuate the bowels, she coughed violently, called for fresh air, had numbness of extremities, and "felt as if her face was drawn aside." This sensation continued for some time; and I found it difficult to convince her that her face was not awry. There were some nausea and vomiting this day. The dejections were not numerous; she felt incapable of making any expulsive effort with the abdominal muscles, though her bodily strength seemed to be great, and she moved and rose from the bed with an ease and quickness which surprised her attendants.

23d.—Most of the last night was passed in sleep. In the middle of the day, the pulse descended, for the first time, to 116. She is quite drowsy. Respiration is natural on both sides of the chest. She vomited once to-day. In the afternoon there was great flatulence; eructations of wind were almost incessant for some hours; and the abdomen was tympanitic. The countenance became very anxious and distressed; and was much changed for the worse, though a little color appeared on the lips. She complained of an overpowering sense of faintness and fatigue; this was somewhat relieved by brandy, ammonia and paregoric, which she took once or twice in the day.

24th.—Slept all night, awaking but once. The tympanitis is gone, and the flatulence. During the day the dejections were numerous, small, thin, green and yellow; she had five discharges of almost unmixed bile. The pulse varied from 120 to 112, retaining the quickness and force of its beat. At noon the pupils were somewhat dilated; and there was an excitement of the mind which increased till evening, when she talked incessantly, and was in a state of great irritation. She complained of faintness, of parched mouth, and sense of burning along the œsophagus. At 11, P. M., she became more tranquil; was groaning often; had a comfortable heat of

skin; and a spot of red had appeared on the left cheek. The cough, which during the last three days had subsided, increased this afternoon.

25th.—A quiet night and day succeeded; she slept all night and much of the day, without any opiate. She had some color in both cheeks, and her lips were blueish. The cough was somewhat violent two or three times. She had no dejection. Pulse was 120, except a little while at mid-day, when it was 116. In the evening the skin was warm and very white; the blueness left the lips.

26th, 27th, 28th.—She passed these days in much the same condition. The surface was like wax. She did not complain of any pain; was desponding and sighed frequently. She slept much. The pulse varied from 120 to 128, and gradually lost its size and strength. Her appetite was good; she relished solid animal food; had one dejection a day, which was copious and fæcal. The urine was passed often, about every two or three hours, a gill each time; it was of a light color, had a very strong, offensive smell, and some mucus floated in it; it was not coagulated by heat.

29th, 30th.—The prostration increased. She slept a great deal. The countenance expressed great anxiety. Bodily efforts produced panting and distress. The pulse was 132, small and feeble. She did not notice a change that was made in her attendants. Her appetite continued to be good. She had one dejection, which was small and fæcal. Urine was passed 8 times in 24 hours, was turbid and very offensive, and was in quantity about four pints. There is a trickling discharge of yellow and offensive urinous fluid from the vulva.

31st.—She had a restless night. Was annoyed by a cough. Had two consistent, fæcal dejections; and discharged less urine; this has ceased to be offensive and turbid. Her perceptions are dull, and the mind acts imperfectly. Pulse varies between 132 and 144, and is extremely feeble. Respiration is laborious.

Jan. 1, 2, 3.—She continued without any striking change, the pulse and respiration becoming more frequent until January 3d, at 9 P. M., when she died. Her intellect was undisturbed; and three days before her death, and at several times, she made arrangements for the disposal of her family and her effects, and gave repeated orders for the examination of her corpse.

In the observation and treatment of this case, I had the aid and counsel of Dr. Channing after the second day, and of Dr. Jackson after the sixth day.

The body was examined 18 hours after death by Dr. M'Kean, in presence of Drs. Channing, Ware and Stevenson.

The adipose membrane was full of fat. Percussion returned a flat sound as high as the fourth rib; the arch of the diaphragm reached up to the fifth rib. In the left cavity of the thorax were 3½ ʒ of serum, and on the posterior and upper part were some old adhesions between the pleuræ. The right cavity contained 2½ ʒ of serum. The right lung had some slight, old, interlobular adhesions. It was spongy, and contained little or no red blood; none followed the cut of the knife even in the depending parts, and none followed the section of the large vessels. The bronchi were pale. The left lung was also spongy and bloodless; the bronchi were very red. In both these was a great quantity of frothy liquid, hardly stained with blood.

The pericardium contained 2½ ʒ of serum. The heart was pale and flabby; no blood flowed on the division of its vessels.

The peritoneum was healthy. The stomach and colon were greatly distended with air. The stomach would hold a gallon, at least. The coats of this organ and of the intestines were dry, pale, very thin, almost transparent. The arch of the colon contained very dry fæces in minute scybala; there were healthy fæces in the commencement of the colon, and in the sigmoid flexure. The mucous membrane of the rectum was dry and of a very light color.

The bladder contained 2 ʒ of urine; the mucous membrane was pale.

The uterus measured 3 inches across; 4⅔ from os tincæ to end of fundus. The parietes were thin. Os tincæ was of the color of India ink, or a deep slate; a shreddy, blueish mass was attached to the site of the placenta. There was a small hydatid in the left fallopian tube. The liver was healthy; of a light color. The gall-bladder contained 80 stones of a resinous consistence.

The pancreas was large.

The spleen was rather large; no blood flowed when it was cut.

The kidneys were very pale; the lining membrane of the pelvis was quite white.

On a review of this case, the most obvious cause which can be assigned to its phenomena, is great loss of blood during or after labor. A person, ordinarily in good health, having no perceptible disease except a moderate bronchitis, suddenly becomes pale, the surface of the body being waxy and bloodless; she is faint and fatigued; capable of great bodily efforts, which, however, produce palpitations and

distress; she has pain in the head, impatience of light, throbbing at the temples, and sometimes an universal throbbing, slight confusion in the mind, and a sense of total and extreme prostration. At the same time the pulse is frequent, large, strong and hard; at least, an observer who should not see the pallid face and miserable look of the patient, would pronounce it to be hard; percussion and auscultation do not give signs of any disease in the organs within the thorax. With the exception of the dysuria, which will be noticed hereafter, the functions of the organs below the diaphragm are well performed; food of various kinds, from liquid farinacea to solid meat, is taken with pleasure and digested with ease. Still, every surface, which can be examined during life, is destitute of red blood. And after death, the only remarkable appearance is the bloodlessness of the tissues; for the inflammation of the mucous membrane of the bronchi of the left lung, which is the only morbid condition that is not produced by the course of the disease or the approach of death, is quite inadequate to the explanation of the symptoms.

These symptoms and the post-mortem appearances might easily, it would at first seem, be explained by the supposition of great loss of blood during labor. And in the first days of the disease, it was almost impossible to reject this supposition. But when the patient was seen to live for 18 days without flowing, and to be steadily declining all this time, although stimuli in large quantities were supported well, and food of the most nourishing sort was perfectly digested in the first passages, we became convinced that there was some less obvious and less appreciable cause of the phenomena. The testimony that she did not flow a very great deal, was as strong as the case could admit; besides the midwife, who is quite capable of estimating the truth in such a case, and the worthy nurse who would be very ready to tell it, the patient herself, a trusty maid servant who removed and assisted in washing the clothes, and a judicious aunt whose situation enabled her to know the details of the labor, all agree in the statement that a very great quantity of blood was not lost, not more indeed than they had repeatedly seen, not enough to excite any alarm or remark, though, as is well known, the fears of attendants are very easily alarmed by the sight of blood.

The dysuria, which annoyed the patient in a few first days of her illness, was probably produced by the opium, which she was taking in moderate doses. This effect of opium is not extremely rare; it is not easy to account for the fact that pain and irritation of the uri-

nary passages, with frequency and difficulty of the discharge, should be produced by this anodyne. So far as I know, it is not mentioned by any writer, though well known, perhaps, to most practitioners.

The treatment was directed to supporting the patient and supplying her vessels with red blood; she took various kinds of alcoholic and vinous stimulants; she had decoctions and juices of meat, and solid meat. All her food was well digested. The administration of iron was several times considered; but it was reasonably concluded that while the appetite was good, and the stomach and bowels disposed of the ingesta readily and healthily, the application of drugs was hardly necessary."

The above minute record makes it unnecessary to add a word more. Without knowing of its existence, I made at the time a brief note of some of the circumstances which had impressed themselves on my mind during my attendance on the case. I do not put them here to confirm what is printed above; but to give the impressions of another witness of the same facts.

Mrs. H., aged about 25, had enjoyed, apparently, extraordinary health. She was safely confined of her third child, having been attended by a midwife in the city. Not doing as well as usual, her medical attendant, the late Dr. Stevenson, was called in. The local difficulties then experienced, were distress in the head, and occasional uneasiness in the abdomen. When I first saw her, the second day from the first notice of her indisposition, I could not but be struck with the change which had taken place in her. She was bloodless—of perfect, I might add of brilliant whiteness. She was not at all emaciated. The fulness of perfect health, and the firmness too remained. The whiteness involved every tissue that could be seen. The tongue, the gums, and whole inside of her mouth were blanched. Her hair was a very light flaxen, and gave a peculiar character to the dead-white face. The manner was perfectly natural. She would scarcely confess to the least local difficulty. There was distress in the head, and pressure of the abdomen occasioned some uneasiness. Nausea was sometimes present; the milk had not disappeared; the pulse was rapid; the temperature raised, but the skin was always sufficiently warm, sometimes moist.

Nothing which I need record occurred to give a more positive character to the disease, or rather to call attention to some particular state of an organ, or of organs, which might lead to an explanation of the disease. The mind, for the most part, retained its vigor.

There was at times a remarkable naturalness in the whole manner of the patient. She called for a glass one day, and was struck with her appearance; the contrast it presented from what was ordinarily exhibited, led to a strong expression of the change. This patient felt early convinced that she should not recover; still there was so little that was positive in her condition, her mind was generally so clear, she suffered so little, and had been so entirely free from disease a few days before, that this certainty of coming death filled her with a species of astonishment. She would ask why she could not recover, and especially if there were not means of recovery which had not been tried. Dr. Jackson was called in, additional means were employed, but the disease went on. The strength was not wholly prostrated. At length the patient, in the strong feeling of approaching death, made, with a particularity very unusual, such arrangements with regard to her children as promised best for them; presents to friends were made with the utmost minuteness of detail, and at last a wish was expressed, nay, the most positive direction was given by her, that her body should be examined after death, that if possible some useful discovery might be made respecting this strange malady which pursued its progress with so little severe suffering, over which medicine had no control, and the end of which was so certain.

Mrs. H. died in the third week of her illness; a most careful examination was made. The textures were some of them dry and pale; the blood was small in quantity, pale, liquid, uncoagulated. Every organ was found in a healthy state.

The following letter is from a much respected friend, a physician in a neighboring town. It is the case of his own wife. I have made some additions, and among these the ***autopsy***.

October 2d, 1838.

Case XIII.—"*Dear Sir*,—I received yours of 27th ultimo, on Saturday evening. I am glad to find your attention has been particularly directed to the collection of cases of anhæmia, and hope your efforts may lead to the establishment of such facts in relation to this disease, as may enable the profession to treat it more successfully than has hitherto been done. The information I can furnish, is indeed little, for I have met with only one case in my professional life, the melancholy event of which you well know; but I shall cheerfully submit to you all the facts that had a bearing upon that individual case, as far as I can recollect them.

Mrs. W. was from her childhood remarkable for the enjoyment of good health, and was not easily affected by the common exposures to the weather. Her age at the time of her death was 29. She was the mother of three fine boys, and their weight at birth was severally $8\frac{1}{2}$, $9\frac{3}{4}$ and $10\frac{1}{4}$ lbs. The first labor was completed in about 13 hours, the second in about 12 hours, and the third in about 16 hours, all of which were natural. Her health before confinement was generally good for the three or four first months, excepting that she was troubled, as is common, with an irritable and acid stomach. For the next two or three months, she was more comfortable, although costiveness was at times complained of, and relieved by simple enemata. The last two months were characterized more by bilious vomiting, which was, however, only occasional, say once in three or four days, and by a cumbersome state of the whole frame, owing to the size and weight of the gravid womb. This state, though sometimes very uncomfortable for a short period, did not prevent her from attending to her usual concerns.

The birth of the last child took place on the 5th of March, 1836, and nothing different occurred during this labor from what attended her previous confinements, excepting that after removal of the placenta, which was easily accomplished, she complained of a sharp but transient pain somewhere about the external passage, which was removed by an opiate, and did not return. There was not an unusual hemorrhage at this time, nor indeed at any time afterwards; and as far as this fact goes, I can say that nothing of her subsequent disease could at all be fairly ascribed to such a cause, for no more blood was lost than she had lost during her former confinement.

Everything now went on well till after the full establishment of lactation, which was soon followed by sore nipples. The lochial discharge began to diminish as lactation was established, and there was a good quantity of milk, till the end of the second week, from which time it gradually lessened in quantity, till it had nearly disappeared about the end of the third week, when the child was taken from the breast.

About the beginning of the second week, a small abscess began to make its appearance in the left breast, which seemed to have been owing to the suffering occasioned by sore nipples; and I would here remark that she had suffered much with each of her children, by sore nipples, which after three or four months got well of themselves, after many things had been tried with little or no effect.

This state of things was, I think, the immediate precursor of all that train of alarming symptoms which followed. The abscess discharged itself about the middle of the third week, but there was then no abatement of symptoms. We have now come to those symptoms which we may fairly call anhæmic; the first was debility, with rapid pulse of 100 to 130 in the minute, an irritable state of the whole animal system, paleness of the countenance, somewhat leucophlegmatic, clean pale tongue, thirst, occasional chilliness, want of appetite, a slow or sluggish state of the alimentary canal, constipation and at the same time inability to sustain the operation of the mildest cathartic medicine. After these symptoms had continued a few days, I felt such a degree of alarm for her safety, as induced me to request Dr. Jackson to see her, which he did on Sunday forenoon; and on the following Tuesday, I think, he again saw her, with yourself, and after a very careful examination, agreed that it was a case of anhæmia. At this time the symptoms were not materially different from those she had had for several days before, excepting the debility and paleness were more apparent, the pulse being, if I recollect right, 126 and feeble. A solution of the sulphate of iron was directed, with such food as she could relish. But it was soon found that she could not bear much solid food, and stimulants, such as wine of various kinds, cider, and, last of all, brandy and an infusion of capsicum, were tried in succession, but she gradually sunk from debility, and died seven weeks and three days from her confinement, having made no complaint of pain, except an occasional and very slight headache. As nearly as I can recollect, the duration of this disease was about four weeks and two days, if we date its beginning about the time the abscess was discharged, which is perhaps as near the truth as we can get, when we reflect that its proper symptoms might have been obscured by those belonging to the general irritation occasioned by the formation of the abscess." * * * * * *

In this letter, which gives in a small compass so accurate a statement of the case, and which makes a detailed account of its symptoms and progress of the disease unnecessary, one very distessing symptom is not adverted to, the state of the brain. Headache is referred to, and I know how much this was complained of. It was not so much for the pain that Mrs W. so often called attention to it, as on account of the sounds of which she was perpetually conscious. These were said exactly to resemble the noise from *sawing wood.*

At times it was described as at a distance, across the road, near a neighbor's house; at others as if at the head-board. So distinct were these noises, so annoying, so distressing, that she would strongly express her surprise that we did not hear them. In order to ascertain if such impulse and sound of the cerebral arteries were communicated beyond themselves, the head was carefully examined by auscultation. It was of course understood that the hearing these noises was the result of morbid sensibility; still there could be no objection to an examination which gave no trouble, especially as it has been recently alleged that auscultation does furnish an important additional means of diagnosis in at least one disease within the skull, ***hydrocephalus.***

The breathing was rapid, and there was some cough. These symptoms led to an examination of the chest, but this discovered no lesion of the pulmonary tissues. So was the abdomen carefully examined, on account of occasional complaints in it. But nothing more was discovered there than that kind of uneasiness under pressure, which is not uncommon after labor.

Dissection.—This was made by Dr. J. B. S. Jackson. While I avail myself of Dr. Jackson's notes of this examination, I cannot but pay here my tribute of respect and of thanks, to this distinguished cultivator of morbid anatomy. How large is the debt which the profession here owes to Dr. Jackson, for the uniform readiness and kindness with which he has always labored for and with its members in the prosecution of this fundamental department of medicine.

"Autopsy, 24 hours after death.

Externally, pallor very remarkable. Countenance much altered, looks much older than she is.

Head.—Scalp; some effusion of serum, probably from blister which had been applied.

Dura Mater.—Some soft, whitish coagula in longitudinal sinus, discovered where it corresponds to the convexity of the anterior lobes, although equally on the two sides; consists of a red, soft, fleshy uniform substance growing from the exterior surface, from half to one line thick, looking more like mucous membrane than granulations, though not unlike last; extent not fully ascertained, but probably covered one third or one half of the portion of dura mater above named. Corresponding part of inner surface of skull healthy. Interior surface of dura mater at this part had an ecchymosed appearance, as if from blood beneath the anarchnoid; otherwise healthy. Brain quite firm. Otherwise nothing remarkable in this cavity.

Thorax.—Pleuræ. Three or four ounces of serum in each. Otherwise quite healthy.

Lungs.—Very œdematous in posterior half. No pneumonia, nor tubercles.

Heart.—Moderately firm; some quite soft, light-colored coagula in both sides. Blood unusually pale.

Mammary Gland.—Some pus and condensation in seat of former abscess.

Abdomen.—Nothing remarkable. Intestines moderately distended with gas. *Uterus.* By measure, a quarter larger than in the unimpregnated state."

Such are the results of a most elaborate examination of as strongly marked a case of anhæmia as has fallen under my observation.

I am indebted to my friend Dr. Hildreth, of this city, for the following notes of a case, which presents many facts illustrative of the disease.

Case XIV.—Mrs. M. J. M., aged 42, born in England. Confined in April the last time.

Has been pregnant thirteen times, and has miscarried in four or five of them; has always been troubled during pregnancy with uterine hemorrhage, occurring generally about every second week, and lasts two or three hours; blood was generally coagulated, and sufficient to wet two or three napkins. Uterine pain has not generally accompanied the hemorrhage. Probably prevented by opiates and perfect rest. Whenever pain occurred, miscarriage followed. Within last five years has miscarried twice, and been confined at the full time three times. General health not robust; rather slender frame, with large limbs. Temper naturally irritable.

Mrs. M. was confined, just three weeks before her death, of a living child which survives. Labor natural; lost as little blood as possible. Began to fail two or three days after confinement. Grew exceedingly pale; lips particularly blanched. Skin rather warm and dry. Slight chills once or twice. Pulse ranged about 120, and was small and irritable. Some headache at first; very much annoyed by noises out of doors or in house. Dr. H. does not remember whether she complained of noises in her head. Great irritability of temper—a very prominent symptom. Often restless and wakeful at night. Previous to confinement, felt and said that she should die. A week before her death she wrote a note, which was read at church for herself as about to die, though at the time there

was nothing particularly threatening in her case. Appetite for light food continued, and occasionally she sucked a small piece of meat, and drank a teaspoonful of brandy, which she said made her feel better. No appearance of disordered stomach, except during the last week, when there was some nausea. Bowels disposed to constipation, and medicine given to remove it, generally over-operated. Milk, which was scanty in the first weeks, stopped entirely in the last. Lochia natural. Never any tenderness in the abdomen. Was thought to have lost flesh during the disease.

Autopsy, by Dr. J. B. S. Jackson, May 10th, 27 hours after death.

Externally, well formed. Rather tall, not very fleshy. Slight rigidity. Thin, bloody vaginal discharge.

Thorax.—Pleuræ. No recent disease. One or two adhesions to a very small extent. Three or four ounces of serum on each side.

Lungs.—Both lower lobes and the upper right were greatly œdematous, the serum having a yellowish tinge, not unlike the color of barley candy. A frothy serum flowed from large bronchi in great abundance, on pressure, before cutting of organs; also some mucous of same yellowish color; lower lobes friable, somewhat reddish; no pneumonia. Patch on surface of left apex, as from old disease, and such as is often seen; slightly firm, inelastic, irregular to feel. In the anterior part of base of left lung is a mass of the size of a cherry stone, partly cretaceous, but mostly a condensed curdy substance—white, rounded, imbedded in substance of organ, and near the surface, which is depressed. No other tuberculous affection.

Air Passages.—Mucous membrane healthy. One of the cartilages, just at the division of two of the large bronchi, seemed nearly ossified.

Bronchial Glands, black as ink, moist and very soft; considerable cretaceous matter.

Pericardium.—Usual quantity of serum; large, milk white patch on surface of right ventricle.

Heart.—Of usual size, flaccid, pale; more so than the voluntary muscles, which were more so, however, than usual; *foramen ovale* closed; left ventricle rather thin, exterior (pericardial) surface somewhat red; inner surface not stained with blood; structure otherwise healthy.

Blood, watery, pale red; some flocculent putriliginous looking coagula in right side; moderate quantity of fibrine in right ventricle and pulmonary artery, of dull yellowish color, and quite soft; some of the same in left auricle.

Abdomen.—Peritoneum healthy. Stomach greatly distended with gas; about three ounces of mucous and liquids. Colorless mucus adherent to pyloric portion; mucous membrane colorless; thin every where; soft in lower half.

Small Intestines, collapsed and quite small; some pasty substance in upper part, nearly colorless.

Large Intestines, much distended with gas, and for the first foot greatly so; nearly empty; some yellow fluid in first part, and some quite soft fæces towards termination. Intestines only opened in three or four places, but there they looked healthy.

Liver, of usual size, quite flaccid, and unusually friable. Gall-bladder small, filled with intensely dark and very viscid bile.

Kidneys, flaccid.

Bladder, contracted; contained a very little colorless secretion.

Veins.—Vena cava, spermatic, and the external and internal iliacs on each side were opened. The parietes and the inner surface appeared healthy. The contents appeared morbid. The blood was watery and pale, as every where else. By pressing on the inside of the pelvis, the parts being *in situ*, the blood was forced up into the iliac veins, and as it flowed over into the common iliacs, it was distinctly observed by those present, to be mixed, not merely with "putriliginous looking flocculi, such as were found in the heart, but with a thick, whitish, opaque fluid like pus." No distinct pus was seen by itseif, but the contents of the veins perfectly resembled blood with some mixture of pus. This appearance was observed on each side. There were in several veins very firm solid masses of coagula of whitish color, mixed with red; fibrine with some red globules, round like a pipe stem, filling the vein an inch or two long, tapering off to a point, not adherent; found one of them (the piped-shaped membranous masses) in the broad ligaments.

Uterus, four and a half inches long, including the os tincæ; greatest width three inches; five lines thick at fundus, and gradually increases to cervix, where it is nine lines; i. e. the parietes. Outline of neck sufficiently marked; one inch long; arbor vitæ not to be seen, but on the anterior face one or two longitudinal fissures, not very deep. Glandulæ nabothi quite large and numerous; considerable quantity of transparent, yellowish, thick, gelatiniform mucus just within os tincæ. Organ quite flaccid. Color of cut surface whitish, muscular structure not to be seen. Interior surface smeared over with a thick bloody fluid; one loose coagulum about one third inch

in diameter. Site of placenta very satisfactorily made out, on the left side of the body of the organ, just below fallopian tube, quite rough or knotted in this part, from many small, dark coagula just beneath the surface, probably the plugs of the uterine veins. Ovaries small. Corpus luteum in left, distinct, two and half to three lines in diameter, oval, brownish yellow zone around; centre colorless; could not perceive a cavity; pit over it; no cyst.

Vagina, unusually smooth on inside, dull-reddish color.

Organs generally in thorax and abdomen pale. *Spleen* large; dark-red externally; very flaccid; dark-brownish red internally and externally; soft; on pressing it, a very thick grumous fluid was forced out in great abundance, leaving the proper tissue of the organ colorless, and especially after being washed. Appearance undoubtedly owing to some peculiar condition of the blood."

Case XV.—Mrs. W. was safely delivered of her second child. She was visited the usual time after delivery, and was left in apparently good health. In about a fortnight after I was desired to see her. I found her looking greatly changed. She had always been noticed for her perfectly healthful appearance. Her hair was very light flaxen, eyes blue, complexion fine, clear white and red; flesh abundant, though not excessive; the whole form, expression and complexion just what you often see in a woman of about 22, who has never known disease nor trouble. The change which struck me at my visit, had regard mainly to the skin and to the expression of the face. She was not at all emaciated. Her skin was entirely destitute of its natural color. The face, lips, the tongue, the edges of the eyelids, and the angles of the eyes—in short, every spot in which I remember to have seen color, was now entirely white. It was not the pearly white which I have seen in other cases. There was a slight yellow infusion with the white, which gave to it a dirty hue. This, however, much disappeared when the light fell full on the face. Then again the expression. This was anxious. The eyes, which were naturally quite open, were now almost staring. There was marked distress in the face; but not such as usually accompanies pain, or any apparent apprehended evil. She was nursing her baby, and I cannot tell you how strangely this office was contrasted with her morbid appearance, which showed as if it were impossible she could have milk. She was sitting up, and was down stairs, but on inquiry I learned she was very feeble; her voice was hollow and weak; her appetite almost nothing. Still she had milk, and her child appeared perfectly well.

I learnt that she had been failing, without any obvious cause, for some days. Suffering had been so slight, or rather so wanting, that her state had attracted but little attention. I kept notes of this case; but it would be a tedious office to read the detail. She was soon obliged to take to her bed, and never left it again. Her head was in constant distress. Each pulsation in it was accompanied with (to her) a distinct loud puff or buzz, compared to the letting off of steam from a locomotive engine. She lived near a rail road. In both Mrs. Q. and Mrs. M.'s cases, the same comparison of the noise in the head was made. This state of brain prevented sleep, and made the whole situation of the patient most uncomfortable.

One symptom was very striking in Mrs. W.'s case, and as it occurred in all I have seen, it deserves special notice. I refer to the color of the veins, or rather of the blood in them. This is a ***bright pink***, totally unlike the ordinary deep blue of venous blood. Where the anhæmia is excessive, you may look in vain in the usual places for the superficial veins. They are generally so nearly empty of blood, as to show none. But in these extreme cases there are places in which vessels may be detected, and especially on the inside of the ***wrists***. Here I have never failed to find these vessels. They are of a bright pink, or light rose color, the tint being very beautiful as seen in contrast with the marble whiteness and marble smoothness of the surrounding skin. The skin often becomes so nearly transparent, that these veins resemble painted flat lines on the surface, rather than a subcutaneous round vessel.

The stomach and bowels gradually became disordered in their functions, and the increasing debility and total loss of appetite for solid food, made a constant and increasing use of stimulants necessary. The effervescing, as champaigne wine, and bottled cider were most craved, and were best borne. Diarrhœa was a troublesome attendant, and the means used to restrain it often disturbed other functions. This patient had extensive ***purpura*** over the extremities, accompanied with blood from the bowels, and from the bladder. This is the only case in which I have noticed this complication. There seemed to have been too little blood in them to give rise to it; and in Mrs. W.'s, where the extreme of bloodlessness existed almost from the first, you would have never looked for such a symptom, or rather disease.

The pulse in this case was always rapid. This was noticed in all the cases. Respiration was hurried and labored, and gave a pecu-

liar character of hurry and uncertainty to her voice. She continued to fail, though most carefully nursed, and though constant efforts were made to prevent death by all such remedial means as were thought to promise best to prevent that issue. She died about three weeks from the attack.

Case XVI.—Anhæmia in this case begun and was fatal during pregnancy. I have seen no similar case. I was desired to see Mrs. K., and was at the time informed that she was exceedingly ill; that she had been seen by her physician only very recently, and that her recovery was very doubtful. I found her in great distress; and from the character of her complaining, there being a distinct bearing-down effort made almost without intermission, I believed she was in labor. Her distress was too great to permit her to state what the nature of her suffering was, and in a few minutes she became unconscious. The bearing effort ceased, and she rapidly sunk and died undelivered. The symptoms of anhæmia in this case were very distinct, and though she had been very ill for several days, her rapid sinking was ascribed to excessive discharges from the bowels produced by medicine given by her freinds. No examination was made. Death took place in less than an hour after I first saw the case.

Case XVII.—Mrs. B. was safely delivered of her fourth child, Oct., 1841. She had been troubled with diarrhœa during about eight months of pregnancy, and this continued from delivery to death. She was always very pale; white, light hair and eyes, sufficiently fleshy. Anhæmia was marked by its usual symptoms, with the addition of diarrhœa. The pulse was very rapid. She retained the powers of the mind after an extraordinary manner; and a serenity equal to any alluded to above, was very marked. The close of life brought no fear with it.

Examination discovered the usual facts of anhæmia, with the addition of some slight ulcerations in the bowels, which accounted for the diarrhœa.

PATHOLOGY.

This is the most important topic presented in any and every medical history. The solution of its problems would be a sure guide in the diagnosis, prognosis and treatment of disease. Said a most distinguished teacher of the theory and practice of medicine, "If I can in any useful degree teach the pupil what disease is, I have no question that he will treat it well." What is anhæmia?

The answer must be looked for in the symptoms during life, and the appearances on dissection.

SYMPTOMS.

These have been stated in the cases. They are found in the state of the skin, the brain, the organs of the thorax and of the abdomen. There is the brilliant whiteness, smoothness, roundness, dryness and warmth of the *surface*, every where; the blanched lips, mouth, tongue; the scarcity of external or subcutaneous *veins*, and the bright pink color of their contents, with the want of the roundness in these vessels, which results from their fulness. In the *head* we have various noises which accompany the cerebral circulation. In the *mind*, various states from indifference to anxiety. For the most part great serenity, and a looking for death without fear. In the *chest*, the most constant symptom is the tumultuous action of the heart, sometimes extending to the abdominal aorta, leading, in one case of which I have a brief record, to the belief that the disease was aneurism of that artery; and in the case of S. H., above, where the action of the heart was most violent, to its being confounded with grave disease of that organ. *Respiration*, at times easy, at others labored. In the abdomen, nausea, and other disturbance of the stomach was observed in some cases; and diarrhœa more or less obstinate in others, in one accompanied with melœna.

For the appearances on dissection, the cases are referred to with the single remark, that in the majority of them, no such lesions were discovered that threw any light on the disease. Where the heart, the brain, or other organ had been most disturbed during life, there was entire want of appreciable lesion discovered after death. In all, however, very noticeable changes were discovered in the blood. And in whatever organ this fluid was examined, it betrayed the same condition.

Of the *blood*. The nature of anhæmia has been looked for in the condition of the blood. This condition has been traced to chemical, physical, and vital changes in the composition, and of course appearance of this fluid. Thus the blood is pale; hence we are told the red globules, and especially what colors them is changed, or is more or less wanting. It is more liquid, coagulates but slightly, or not at all; hence the composition, its chemical elements or their relations, have undergone changes of some sort. Now as the blood is just what it is by its life, its vitality, whatever new combinations, or disturbances in the proportions of its elements, or other modifications it may manifest, must

be resolved into such conditions of its own present state as interfere with its power to sustain itself just in such a condition in regard to its whole being, as will constitute it healthy blood. In other words, I look to life, let it be what it may, as the condition of health; and in disease, I find a condition of the whole, or of parts of the system, which interferes with their manifesting the vital power in its integrity or completeness.

The condition of the blood in anhæmia is very remarkable. Thus the small vessels nearest the surface of the body, in perfect health, by their mode of action, or contents, give to that surface a tone of color which is never *white*. Said an eminent artist to me one day, "The skin in health is never white, and he who paints in imitation of it, will never succeed by using white paint alone. Only, said he, take a piece of white paper and place it on the fairest skin you ever can find, and the strongest contrast between them will be at once perceived." I speak of the surface elsewhere than of the face. There in health the small vessels circulate the blood in its *whole* color of red, elsewhere they modify it. In anhæmia the case is wholly different, and we perceive at once such a difference as satisfies us that the blood has undergone change. It is only and wholly white in the skin, even of a more intense whiteness than exists after death.

Then look at the veins where you can see them. They differ entirely in their color and size, or, as I would express it, *shape*, seeming rather *flat* than *round*. Here we have the blood itself, not as it is modified by the capillaries, if so, in health; and it is of a bright pink or rose color, instead of the healthful modena blue of its most natural state, and which in its contrast with the natural complexion is so beautiful. Then the state of the blood in the great vessels, as showed by dissection, is remarkably unlike true blood. It is thin, watery, pale, with soft, or no coagula. It resembles somewhat the blood which escapes at length from a wound which cannot be closed, as from pulling a tooth, cutting the gums, &c. in hemorrhagic persons. Yet the blood of anhæmia has its differences from this. In its cause it especially has these, *for it is not a state induced by hemorrhage.* At least, in the cases which I have seen it has not been so.

In speaking of what is anhæmia, there is one fact which I cannot pass unnoticed. It was presented in one case only, that of S. H., and impressed itself upon me deeply. I refer to the violence with which blood burst from the orifice made in bleeding her. The heart was acting with great energy. It was tumultuous in its action. Her

veins were of bright arterial color, as strikingly so, if not more so, than I have ever seen it before or since. Does not this single fact teach a doctrine of the greatest importance in this question of pathology? Does it not teach that the small vessels, which are the great artificers and agents in all organizations and all actions, that preserve the balance in health, and do most to control disease, does not this single case teach that the action of these vessels, their true functions, are subverted in anhæmia; that the arterial blood does not become venous in the capillary circulation; nay more, that this system undergoes such a change in its physical, as well as functional state, as to allow the blood to pass from one system to another with an ease, a freedom, that gives to the venous circulation the character of the arterial? This is a bold *generalization*, I well know, if such it can be called, to make a *doctrine* out of a *single fact*. But has it no support? Does it not get some in the absence of emaciation in the midst of the universal or apparent absence of all the processes which sustain the flesh? How feeble has the absorbent system become, since seemingly it remains without function, or any such function as ordinarily produces waste, and this too, when the nutritive processes are scarcely more active, than their opposite, or antagonist ones? True, appetite is not always wanting, and food is sometimes well borne, and apparently well digested. Chyle then is formed and enters the circulation, and in the current of blood with which it is mingled, finds its way to the lungs, and dissection shows how little diseased are these organs; so little, that we have no reason to suppose that the blood fails to receive all such action from these organs as may be necessary towards its perfection. But examine it in its vessels, or out of them, especially in the veins, and at once we find, as was above shown, that it has not all the properties of true blood.

Now how is blood made? A short question, but of difficult, if not impossible answer. The white chyle passes into the left subclavian vein and there mixes with the venous blood, which living fluid and living vessel act momentarily upon it, and convey the blended mass to the heart. Here it is again acted upon, and then enters the lungs. New agencies are here exerted; and still farther changed, it returns to the heart again for new action, and for a new direction. The arteries receive it, which may possess a higher life than any of the organs which have yet acted upon it, both in themselves and in the capillary system to which they give origin. In these it becomes perfect blood, and from them, composing as they do the greater if not the most im-

portant portions of all the organs, proceed directly all the various products or secretions of true blood. This is a sketch of the progress of chyle to blood. It is no answer to the question, "how is blood made?" What are the precise agencies of the several parts of this complex apparatus, and in what part of it does that disturbance begin which ends in the formation of the blood of anhæmia? or that arrest of blood in its true formation? I have looked to the small vessels—to those organs in which the process would seem to find its termination, for that defect of function which results in imperfect blood; and I have arguments for this notion, in the color of the surface of the body, the color of the blood in the superficial veins, and in the phenomena which attended bloodletting in an important case. I have not alluded to the nervous function as regulating all others. That doubtless sympathizes with the whole disturbance; nay, it may give rise to it all. If I had a single fact to indicate, however remotely, what is the condition of the nerves themselves in anhæmia, or how their functions are disturbed, most gladly would I have set it down. It will not do to refer me to the excited sensibility of the brain, which gives voice, so to speak, to every pulse of every cerebral artery; nor to the tumultuous action of the heart, and aorta; for what more could you expect from these organs, acting as they do under the direct influence of imperfect blood?

One appearance on dissection has not been alluded to. I refer to a remarkable dryness of the textures. This was most observed in the case of Mrs. H. Attention was led to it in the beginning of the dissection, viz. while raising the muscles from the ribs. The cellular membrane was almost dry enough to crepitate when cut, and did so when forcibly torn by the hand. The peritoneum had the same remarkable dryness, as did the muscles. This fact may find its explanation in the deficiency of blood which belongs to the disease. Not that it belongs to it in the relation of cause and effect, as will be shown in the *diagnosis*; still it does teach something of the primitive or connected disturbance of the system of vessels now under notice, and so deserves regard. What has now been referred to of a strictly pathological bearing, is rather the expression of thoughts which have occurred to me while writing of anhæmia. It is not offered as new, nor as containing a theory of the disease. It may lead to other thoughts. It may give to the whole subject an importance which it may not now possess. The disease is a most fatal one. It is not so rare as may be supposed. I might easily add to the cases already given, and from the record of them, too, show how fatal anhæmia is.

In this pathological inquiry I have purposely omitted, for distinct notice, a subject which gives to it its principal interest; viz. the connection of anhæmia with the *puerperal state.* It will be seen that the greater number of cases occurred in this state, and that with the exception of two only, and to which reference merely is made, all of them have ended fatally. I do not recollect that any writer has treated of anhæmia in this connection. I have examined the latest and fullest systematic work, and which has a chapter devoted to anhæmia, but which has not an allusion to the *puerperal state* as leading to, or as having been complicated with it. The cases in this paper occurred in females, excepting a single instance. Among the women, only one was unmarried, and this was fatal. In others, where the symptoms were well marked, but which were not *puerperal,* there was recovery. This state, then, deserves especial notice in our inquiry; most particularly does it so, when the great fatality of the disease at such a period is considered. In what the predisposition of such a state to such a malady consists, I know not. I can only say I have seen it pursue its unobstructed course in women recently confined, who have seemed the least liable to any disease either before delivery, by the occurrences of labor, or afterwards. Suppose no special predisposition to exist, may not the puerperal state itself, if not a cause, be an unfavorable condition for sustaining the disease should it occur from common causes, and so the mortality of such cases be in part explained? Or, may not the puerperal state lead to graver invasions of anhæmia, let its causes be what they may? It is the purpose of this paper to show that some connection subsists between the puerperal state and anhæmia, either as to predisposition, cause, or character and tendency of the malady, in order to lead to a more faithful study of the whole subject than it has received.

DIAGNOSIS.

Anhæmia after delivery may be confounded with that state which follows immediately, or soon after uterine hemorrhage. In the first or immediate state, the surface may resemble anhæmia; while some of the symptoms of *reaction* are still more nearly like it. A very little observation will show that the *color* of the skin after hemorrhage, is wholly unlike the *no color* of anhæmia. The skin, in the first place, may be blanched; but you see at once that something of its natural hue remains. It is not *red* in any sense of the word, but in this circumstance alone does it look like that of anhæmia. There

is ***complexion.*** Then again the face especially, and to this are these remarks confined, after hemorrhage, is sunken, wanting its natural expression ; showing in the suddenness of the exhaustion, how sudden has been the action of the cause which has produced it.

Reaction.—After uterine hemorrhage, this sometimes is excessive, and along with the continued pallor, its symptoms nearly resemble anhæmia. The principal of these symptoms is the violent action of the heart and arteries, and the sounds which accompany this action. In the ***brain*** we may have sounds which may be thought to imitate those which accompany anhæmia. They differ, however, in this. They are called a ***beating***, or rather thumping in the head ; and are referred to various parts of the head, the temples especially, not to the ears ; they are ***felt*** rather than ***heard ;*** and I have never known them to be compared to the distinct noises that are so painfully annoying in anhæmia. The least motion of the head increases the trouble almost to agony. The woman gets no sleep, and manifests extreme and general distress. So with the ***heart.*** Its action is tumultuous, audible to the patient, and is increased by the least motion.

Now how soon do all these troubles, incident to an excessive functional effort, give place to a controlled and salutary degree of ***reaction*** after ***hemorrhage?*** Sometimes again it passes into the truly morbid, even to the production of ***peritonitis puerperarum***, or puerperal fever. So often has this been noticed, that judicious observers tell us, that in an epidemic invasion of that disease, we are not to look for exemption from it, in the profuse, nay, dangerous hemorrhages which may have attended labor. We may even be called on to practise active depletion in just those cases in which we might ***a priori*** have supposed it least likely to have been demanded. I might here show how prompt is sometimes this ***reaction,*** how salutary soever it may be, to pass into threatening local inflammation. Witness a case reported some time since in the London Medical and Physical Journal, of transfusion of blood done to prevent death from uterine hemorrhage, in which in a day or two afterwards it became necessary to apply ***leeches*** for a threatening ***phlebitis,*** which had attacked the arm in which the transfusion had been done. Thus it is that simple ***reaction*** from ***loss of blood*** differs entirely from anhæmia. Every day that passes makes the safety greater in the one state, while time only developes more and more rapidly the fatal result of the other.

Diseases of the Heart and Arteries.—I have already given at some length a case, that of S. H., which was regarded as organic

disease of the heart, and in which bloodletting had been so frequently practised to save life. In that case anhæmia would seem to have been produced, or certainly not benefited, by the depletion for the supposed disease. Examination showed the error of the diagnosis. The heart was perfectly normal in its structure. I know, or rather have heard of a similar mistake, after a most careful *diagnosis;* and have before me the record of a supposed veritable aneurism of the *aorta*, which turned out to be no aneurism at all, i. e. at the *autopsy*. These were both cases of anhæmia. In these instances the disease was chronic, at least had existed much longer than is common with the disease which they seemed so exactly to imitate. The diagnosis of the more usual forms of anhæmia, which are strictly *acute*, or are speedily terminated, cannot be very difficult. The palpitation of the heart, and pulsation of the arteries, may be never so tumultuous, still there is over and above all these, so much obviously threatening disease, with occasionally, I acknowledge, most extraordinary contradictions, that a careful observer cannot but see that the apparently most pressing symptoms are in reality the least so; that death is surely coming, but to which event those symptoms in themselves would hardly be supposed to lead. And how rare is it for those symptoms to be dwelt on by the patient? Nothing has been to me more striking, I had almost said startling, than the perfect serenity, the emphatic prophecy that life will soon cease, and the composure with which that event has been looked to, as these have been manifested by women, and by young women too, who have been just placed in the most important and interesting relation of life. You feel at the moment, and the thought never leaves you, that this mysterious malady has not its place in any one organ, an organ whose obvious lesion is after death to tell you the story of its cause. The whole material organism is disturbed, diseased, while the immaterial, the spiritual, has gained new power in the very midst of all this physical confusion.

But how is anhæmia distinguished from the organic diseases just named? I have named one means of diagnosis in what I have just written. Then the symptoms given before, aid the question. You do not find in it any of the local or general symptoms which mark an organic disease soon to be fatal. The characteristic œdema of the face, of the feet, of the ancles, the ascites, the deficient urine, the thirst, the febrile commotion, the emaciation, the difficulty of any particular *decubitus*, especially the strongly expressed demand for an elevated position of the body; all these are wanting in anhæmia. In the genu-

ine disease, attacks are not paroxysmal, at least not so as in simple nervous heart, or in the graver organic lesions of that organ. There is no emaciation. At least I remember but one case in which this was very striking; viz., in the protracted one of the young man which stands first in the series. And how strong is the contrast between the marked serenity and absence of complaint, even where the disturbance of the circulation is greatest, and that deeply expressed, and visible anxiety, and even pain almost amounting to agony, which attends the severer paroxysms of heart disease. I cannot but notice this, now that I am attending a young person with such disease in its worst form, whose life for years has been an almost continuous suffering, and who, now apparently at the close of life, is conscious of nothing but physical misery, and yet is daily occupied with the delusive hope of recovery.

Chlorosis.—In its chronic state anhæmia may imitate chlorosis, and by excessive depletion for some of the severe symptoms of the latter, the former I think may be produced. I have given a probable case of this kind. In its connection with the *puerperal* state, however, whether acute or chronic, I hardly think such an error of diagnosis can arise. I however have said quite enough of the disease itself, and of its imitations, to make it unnecessary to point out in detail, or even at all, in what it differs from chlorosis.

PROGNOSIS.

The character of this is easily to be gathered from what has been said in every page of this paper. The hourly and daily persistency of the same symptoms, with the as strongly marked failure of all the powers of life, and the unceasing progress to death which almost ever case has made, tells us what the *prognosis* should be. The unfavorable character of this gets new force from this single and simple fact, that in the two cases of anhæmia which are reported to have recovered, there was no such change produced by any portion of the treatment, as authorized those who attended the cases to decide in any degree on what these recoveries depended.

TREATMENT.

The last question does much to settle the questions which the treatment of anhæmia involves. The dissections which have been reported in this paper, and it would have been easy to have added to them, have thus far shed too little light on the nature of the disease to guide us in its

treatment. These teach us how fatal a disease may be, the individual instances of which may have so strong a resemblance to each other as almost to seem to depend on some specific cause, and still leave no marks behind. The most which has been done by treatment, has been to attempt to answer the most obvious indications; and in the midst of universal physical prostration, with perfect mental vigor, to assist what power remains in sustaining the functions on which living depends. The question of *transfusion* has often occurred to me. But of what possible benefit would be such a supply of blood? What might not the effect be of filling almost empty vessels with a fluid so unlike that which already circulates in them, and which *their own functions* have produced? In a disease so fatal some risk might be incurred. But is transfusion an operation which our present knowledge of it would authorize? If safe in itself, however, might not time be gained by the operation, for such functional changes to occur as would supply healthful blood?

NOTE.

I have received the following notes of the last two cases, from the physician who attended them, since the above went to press. For them, I beg him to accept my best thanks.

Mrs. B. had been affected some months before confinement with diarrhœa, accompanied by palpitation, vomiting, ringing in ears, pale lips and skin generally, by tendency to faintness, and by aphthous mouth. About a fortnight before confinement had a smart attack of vomiting and purging, keeping her confined to the bed a few days. Her labor was very favorable, Oct. 27, 1841, and for two days she was very well, and costive. She then took a half ounce of oil, which operated moderately, but afterwards the action of the bowels kept up, but not urgently, for about a week. By November 3d it became urgent, and other symptoms began to appear, but still the appetite was good and milk continued. From this time till death, which took place November 15th, she continued growing worse, with only an occasional temporary mitigation of symptoms. The diarrhœa was less urgent as to the number of discharges, but they were accompanied by great prostration. The pulse varied from 130 to 144. The mouth sore, white, red, sodden. Frequent vomiting, fainting on aris-

ing, copious collection of mucus in fauces and œsophagus, which was frequently hawked up and sometimes created gagging; countenance quite pale, &c. Pulse not only frequent, but very deficient in force. Slight exacerbations. Mind perfect to last. Exhaustion remarkable both from vomiting and dejections.

Mrs. K. has been out of health several years. Several children born dead. Not been well through this pregnancy; sore mouth, œdema of various parts, especially genitals, with great soreness. Called to her,

April 2.—Very pale lips, ears, tongue, &c.; mouth very sore; much swelling and intense soreness of genitals.

April 7.—Increase of all symptoms; roaring in ears; discharge of blood from rectum; great smarting of anus and genitals; short high breathing; diarrhœa; delirium; great distress at epigastrium and for breath; groans; death at 3 P. M., April 11th.

Art. II.—*Gun-shot Wound of the Face and Neck—Ligature of the Carotid Artery.*

To the Editors of the New England Quarterly Journal of Medicine and Surgery.

Gentlemen,—The following paper was put into my hands by Dr. Twitchell, of Keene, N. H., and at my request permission to publish it was granted to me. I forward it for insertion in your Journal.

G. C. S., Jr.

During a mock-fight, at a regimental review in Temple, in New Hampshire, on the 8th October, 1807, John Taggart, of Sharon, a cavalry soldier, æt. 20 years, received a wound (supposed to have been caused by the wadding and burning powder from a pistol discharged near him) on the right side of the neck and face, extending from behind obliquely forward into the mouth. He was immediately conveyed to a public house, where, at the request of Dr. Crombie, then surgeon to the regiment, I assisted in the examination and dressing of the wound, and subsequently took charge of the case. We found the whole of the right side of the head, face and neck very much burned; and a large wound penetrating the pharynx and mouth, by which were destroyed, or greatly lacerated, nearly the whole of the parotid gland, the temporal, masseter and pterygoid

muscles; and also parts of the muscles on the anterior part of the neck between the inferior maxillary bone and the os hyoides. The angle, ramus and coronoid process of the inferior maxillary bone, and the pterygoid process of the sphenoid bone, were shattered; and that part of the superior maxillary bone which covers the antrum Highmorianum was so broken that the finger could be readily introduced into the cavity; the right side of the tongue was also somewhat lacerated. Although the external carotid artery and its branches had been divided, yet, at the time of the injury, the hemorrhage was not copious. All the fragments of bone which were so situated that they could be extracted without much difficulty were removed; simple dressings applied to the wound; the patient was put to bed, and an anodyne draught administered.

Oct. 9th.—The patient had rested but little; there was a good deal of arterial excitement; and so much inflammation and swelling of the throat and fauces, that he was unable to swallow or to articulate intelligibly. His respiration was somewhat impeded; his face very much swollen; and he had great pain in the head. I directed V. S. to ʒ xx.; an evaporating lotion to be applied to the head and face; and a cathartic enema to be administered, which procured two or three dejections. These remedies appeared to give some relief for a few hours; but in the evening the excitement and pain increased. Ten or twelve ounces more of blood were taken; the lotion to the head and face was directed to be continued; and an emollient poultice to be applied to the wound.

Oct. 10th.—The patient had slept some during the night; the pain and swelling were diminished; and, with much difficulty, he swallowed a little cold water—though a part of it escaped from the wound in the attempt. The local applications were directed to be continued; a tea-spoonful of a solution of borate of soda to be put into the mouth every half hour; and a little gruel to be given if he could swallow it. In the afternoon he was removed to his father's house in Sharon, a distance of eight or nine miles, without any unfavorable symptom being developed. A cathartic of magnes. sulph. was ordered to be taken as soon as practicable.

Oct. 12th.—The inflammation, pain and swelling were much diminished. Pulse 70—80, soft. He could articulate more distinctly; and the deglutition was improved; though in the attempt to swallow liquids, a part still escaped through the wound. Suppuration had commenced; and the dead parts were beginning to separate. The

posterior upper tooth of the side affected appeared in the wound and was removed. The magn. sulph. had procured three or four dejections. The emollient poultices were continued; and he got a little broth.

Oct. 14th.—Suppuration copious; some portions of the dead parts had become detached, and were removed; and some fragments of bone came way.

Oct. 16th.—Since the last visit, the disorganized parts had very much separated; and the coronoid process, angle and ramus of the inferior maxillary bone as far as the posterior molar tooth had now been removed. The patient could sleep quietly; and could take as much food as was necessary. I discontinued the poultice, and directed simple cerate spread on pledgets of lint to be applied.

Oct. 18th—(Ten days after injury). The wound had now become cleared of all dead portions of muscle and cellular membrane; and presented a large circular aperture from two to three inches in diameter; at the bottom of which might be distinctly seen the internal carotid artery denuded from near the bifurcation of the common trunk, to where it forms a curve to enter the canal in the petrous portion of the temporal bone. Directly upon this curve of the artery might be seen a dark speck, of a line or two in diameter, which seemed to be a dead portion of cellular membrane adhering to the coats of the vessel. I carefully touched it with a probe; but finding that it adhered, I desisted from the attempt to remove it; and expressed to the patient and his friends my fears of a dangerous if not fatal hemorrhage when that should separate. I applied the usual dressings, left the room, and was about leaving the house, when some one of the family cried out that he was bleeding. I hastened back to his room, and found him deluged with blood. The dressings were immediately removed and the blood jetted forcibly, in a large stream, to the distance of three or four feet. With the thumb of my left hand, I instantly compressed the artery against the base of the skull; and thus effectually controlled the hemorrhage. The patient had fainted; and fifteen or twenty minutes had elapsed before he was so much revived that I dared to make any attempt to secure the artery. Then, still keeping the thumb firmly pressed on the orifice, I proceeded to clear the wound from blood; and having done this, I made an incision, with a scalpel, downward, along the course of the artery, to more than an inch below the point where the external branch was given off; which, as stated above, had been destroyed at

the time of the injury. Having but one hand at liberty, I depended upon the mother of the patient to separate the sides of the wound; which she did, partly with a hook and occasionally with her fingers. At length, partly by careful dissection and partly by using my fingers and the handle of the scalpel, I succeeded in separating the artery from its attachments; and passing my finger under it, I raised it up sufficiently for my assistant to pass a ligature round it. She tied it with a surgeon's knot, as I directed, at about half an inch below the bifurcation.

I removed my thumb and sponged away the blood, not doubting that the hemorrhage was effectually controlled. But to my surprise and disappointment, the blood immediately began to ooze from the rupture in the artery; and in less than ten minutes it flowed with a pulsating jet. I compressed it again with my thumb; and began to despair of saving my patient. What further could I do? It was impossible to apply a ligature above the orifice; compression, then, was the only alternative. How was that to be effected? Should some one sit by the patient and compress the artery constantly with the fingers till adhesion should take place? Possibly that might have been done; but I resolved to make another attempt first. Raising my thumb, I placed a small piece of dry sponge directly over the orifice in the artery; and renewing the compression till a little larger piece of sponge could be prepared, I placed that upon the first; and so went on, pressing the gradually enlarged pieces obliquely upwards and backwards against the base of the skull, till I had filled the wound with a firm cone of sponge, the base of which projected two or three inches externally. Then I applied a linen roller in such a manner as to press firmly upon the sponge; passing it, in repeated turns, over the head, face and neck. I directed that the patient should be placed in bed, with his head moderately raised; and that he should be kept as quiet as possible; and as his pulse was very feeble, he having lost, at that time, between three and four pounds of blood by estimation, he was allowed a little wine and water, and occasionally some broth. We carefully watched him through the night; but no bleeding occurred; and he complained of but little pain.

Oct. 20th—(Forty-eight hours after the operation). There had been no hemorrhage; and there was but little excitement. Pulse 95—regular. I directed the patient to take gruel and broth; and a little wine and water if faint. This course was pursued till

Oct. 24th,—when the bandage was removed and a fresh one applied, without disturbing the sponge.

Oct. 26th.—The fetor arising from the accumulation of matter in the sponge had become so offensive as to nauseate the patient. I carefully removed several of the external pieces of sponge, washed the wound with a weak solution of potass. carb.; substituted lint in the place of the sponge which had been removed, and applied the bandage as before.

Oct. 28th.—All the sponge was removed except a small piece directly on the artery; the wound was washed with a weak alkaline lotion; and pledgets of lint, spread with simple cerate, were applied.

Oct. 30th.—The ligature on the carotid came away; and the wound was rapidly filling up with granulations.

Nov. 1st.—The remaining piece of sponge was removed. The patient attempted, for the first time since the injury, to masticate his food; but the under jaw was drawn so much to the left that the teeth would not meet. To remedy this inconvenience, I caused an ingenious blacksmith in the neighborhood to make an instrument something like Hull's truss; one end of this being fitted to the top of the head, it was brought down, on the right side, under the chin; and the pad on the other end was made to press on the left side of the inferior maxillary bone. He wore this instrument most of the time during the remainder of the treatment; and it effectually answered the purpose.

Nov. 11th.—The patient had very much improved. Several pieces of bone and a tooth had passed out from the wound, which was rapidly cicatrizing. There was but little discharge of matter; he was able to move his lower jaw, and to masticate solid food with ease.

Dec. 30th.—Some small fragments of bone and a tooth from the upper jaw had been cast off. The wound was completely cicatrized and the parts consolidated. There was, however, some little deformity in consequence of the depression on the right side of the face.

This case seemed to me at the time highly important and valuable; since it established surgical facts, which, as far as my knowledge extended, had not till then been known. The question of the practicability of the safe application of the ligature to the common carotid artery, was, in my opinion, now solved. I had entertained that opinion for some time before; having repeatedly tied the vessels in dogs, and in one instance in a horse, without causing them much inconvenience; but, at that time, I had seen no account of its having been attempted on the human subject.

Sir Astley Cooper's claim of priority in the successful application

of the ligature to the common carotid artery has been generally acknowledged. He performed the operation in June, 1808; eight months after the above operation. Sir Astley's case was undoubtedly the first published; but it appears from some recent publications, that Mr. Fleming, of the British navy, tied the vessel on the 17th October, 1803, for a servant on board ship who had attempted to commit suicide. The patient recovered. Mr. Fleming died abroad; and the case was first published by his assistant surgeon, Dr. Coley, in January, 1817.

Of late, this operation has become very frequent, not to say fashionable, in this country at least; and in some cases, accounts of which have been published, I should think it had been performed unnecessarily. The case related above, in my opinion, clearly demonstrates the inutility and consequent impropriety of tying the carotid artery for the purpose of preventing the growth of tumors about the head and neck, or as a step preparatory to the removal of such tumors by the knife. Although the common carotid had been tied, but a few moments only elapsed before the hemorrhage from above was so profuse as to require immediate and continued compression. If the circulation is so soon restored by anastomosing branches, of what use can the ligature be under such circumstances—or what prospect can it offer of preventing the growth of such tumors? Reason and the experience of all practical surgeons concur to show that whenever an arterial trunk is tied, or in any way obstructed, the circulation is promptly restored by anastomosis—else mortification would be the consequence.

ART. III.—*Contributions to the History and Diagnosis of Croup.*
By JOHN WARE, M.D.

EVERY practitioner who has had much practical acquaintance with disease, will have observed that there are great differences of character among the cases to which he finds it convenient, in accordance with the custom of medical men, to give the general name of *Croup*. He finds that a certain portion of these cases—and by far the larger portion—yield readily to the means which he employs, and very often to the ordinary domestic remedies of mothers and nurses. He has

indeed reason to believe that a considerable number of them would spontaneously subside if left to themselves. On the other hand, he finds that there are some cases, fortunately but few in proportion to the whole, which exhibit throughout their course a character of obstinacy that bids defiance to treatment; and which, with few exceptions, pass on to a fatal termination uninfluenced by any remedies he can employ.

Different views may be taken of the nature of these cases. It is believed by some that the former are not, for the most part, essentially different from the latter; that the difference is more in degree than in kind, or that the difference in the severity and result depends on difference of management; that the favorable character and course of the former are mainly owing to early and judicious treatment, and the fatal event of the latter to the inefficient or too tardy application of remedies. A long, and I trust a faithful examination of this disease has, however, satisfied me that this opinion is not correct. I have been led to believe that there is an original and essential difference in these cases; that those of the first kind are pathologically different from those of the second; that the former, even if they terminate fatally, which happens in some rare instances, do not terminate in the same way, or at least do not exhibit the same morbid conditions; and that no variety or deficiency of treatment will cause a case of the one kind to assume the character of the other.

I do not, however, mean to imply that all the cases to which I refer, are capable of being classed under two varieties. Among those which I have characterized as of the more mild and tractable sort, we still find great differences in the mode of attack, course, and mode of termination, and also in the degree in which they appear to be influenced by remedies. The object of this paper is to endeavor to contribute something towards determining the nature and extent of the distinctions referred to. With this view I have made an examination of all the cases of croup of every kind which have occurred, during the last twelve and a half years, in my own practice, and of this examination I now submit the results. Upon certain points relating to the severer form of the disease, I have included the examination of a number of other cases, extending over a period of twenty-five years, witnessed partly in my own practice, partly at dissections, and partly in consultations.

It should be first observed, that I have been accustomed, in noting cases in order to an inquiry of this kind, to set down as

croup, all those which in the common language of the profession are called so—viz. all those which at any stage of their progress present a fair question of diagnosis; all those in which we hear the shrill, sharp, ringing cough, which is regarded as the cough of croup, accompanied by a distinct embarrassment of respiration, however slight, and some affection of the voice. It follows, of course, that many very slight cases must have been included among those on which these remarks are founded—cases which yielded or subsided almost at once. Yet it is right that these should form part of the materials of our examination. When we are in search of means of diagnosis, our attention should be directed to all those cases which have, at any period of their progress, exhibited symptoms that give rise to a well-grounded suspicion of their character. Although many cases which excited the apprehension of severe croup on their first attack, pass away very readily, and by their result show themselves to have been of very moderate severity; yet, on the other hand, it is to be recollected that many cases which at last terminate fatally, did not at their beginning exhibit symptoms at all more severe, or excite apprehensions at all more serious, than those which have so readily subsided.

Of the cases to which this inquiry relates, occurring during the period extending from January, 1830, to July, 1842, the number is 131. For the convenience of examination, these may be divided into four classes. I do not intend by this arrangement to express the opinion that they constitute four distinct diseases. I would not be understood even to assert positively, with our present amount of knowledge, that they are not different manifestations of the same disease. The purpose at present is to speak of them as groups of cases distinguished by certain differences in their symptoms and course, which may or may not be connected with an essential difference in their nature. These classes may be designated, with a view to their probable character and for the purpose of referring to them more intelligibly, by the terms membranous, inflammatory, spasmodic and catarrhal. Of the whole number there were,

	Cases.	Deaths.
Of membranous croup,	22	19
Inflammatory "	18	0
Spasmodic "	35	0
Catarrhal "	56	0
	131	19

In the first class are included those cases in which there is reason to believe that a false membrane has been actually formed lining the larnyx and trachea.

In the second class, those cases in which the symptoms are for the most part of the same character as in the first, but in which there is reason to believe that no membrane has been formed. The grounds for the opinion formed of the nature of these two classes will appear subsequently.

The terms applied to the third and fourth classes, require no particular explanation.

The symptoms on which we depend for the diagnosis of croup, relate to the cough, the voice and the respiration.

In the early stage of the first form of croup, the cough is by no means peculiar. In the advanced, it assumes a somewhat different character. In the early period it is sharp, shrill, ringing; it does not vary from that which we hear in the other forms, except perhaps that in some of the less formidable cases it is much louder and more violent at their beginning, than it is in those which prove ultimately more alarming. In the latter period it becomes less loud and ringing, but is equally sharp—it often becomes almost inaudible, bearing the same relation to a common cough, that a whisper does to the common voice. The cough then affords no certain means of distinguishing this form of croup at that period of it in which the diagnosis would be most valuable.

Of the state of the voice, nearly the same remark may be made. In the advanced stage of a case it is sufficiently characteristic. It becomes a hoarse, sharp, and almost inaudible whisper. But early in the disease it is not always affected at all, and if it be, cannot with certainty be distinguished from the hoarse voice of common catarrh.

The condition of the respiration affords us far more important information. In the early period of the disease, however, when we most need means of diagnosis, it is not a symptom which always attracts attention, even from the physician; much less from others who are around the patient. The common description of the breathing in croup, does not apply well to the beginning of the membranous variety. It seems rather taken from cases of a less dangerous kind, in which the breathing is from the first, loud, harsh, suffocative; attended with great efforts, and much loud coughing, creating great alarm, and calling at once for efficient means of relief. But the breathing in membranous croup does not excite attention in the very

commencement of the disease. It is comparatively quiet and unobtrusive. Its true character is not at once to be detected, but only by a careful and accurate observation. The patient has not the ordinary aspect of difficult breathing; in fact, the breathing is not difficult at the very first. He probably experiences no distress. There is no real deficiency in the performance of the function, and no obvious embarrassment. There is only a little more effort in drawing in the air, and a little more force exercised in its expulsion, whilst the amount of air admitted and expelled is fully equal to the necessities of life. This perhaps would not be noticed on a casual glance at the patient, but will be at once perceived on attending to the muscular movements subservient to the function, which are—to use an expressive French term—somewhat exalted. It is indicated very soon, also, by a slight dilatation of the nostrils, and a little whiz or buzz accompanying the passage of air through the rima glottidis. This sound is distinguished either by placing the ear near the mouth of the patient, or by applying the stethoscope on the back of the neck, or directly upon the upper part of the larynx.

This at its very beginning is the essential respiration of membranous croup, and it affords far more aid in diagnosis than either the cough or the voice. It is not, however, always found as pure as has been described. It is often mingled with, and obscured by, other sounds. Thus the disease is often attended by paroxysms of irregular and spasmodic breathing, accompanied by violent muscular efforts and great distress, and of course producing other and more obvious sounds than those described. There is often also present in the air passages, either above or below the glottis, a quantity of mucus, giving rise to a constant or occasional rattling, which seems to mask the proper sound of croup. These adventitious sounds being also as frequently heard in the other forms of croup, are therefore of no service in diagnosis. Generally there are intervals of relief from these superadded symptoms, especially immediately after vomiting or bleeding, but the essential breathing of the disease will be found to be unchanged and unmitigated in these intervals of ease; although the apparent relief may be so considerable as to give rise to strong, but fallacious hopes of recovery.

We occasionally hear, in cases of considerable enlargement of the tonsils, a kind of breathing which closely resembles the early breathing of croup. Usually in such patients the respiration is loud, sonorous, unequal and irregular, but in a few it is quiet, steady, with a

muscular effort occasioned by a mechanical obstruction like that in croup. The distinction between them can, however, be readily made, by attending carefully to the seat of the obstruction, which is above the rima glottidis in the one case, and at it in the other; by the sound of the cough and voice, which are not croupy, and by the fact that the obstruction varies in degree and sometimes vanishes, with change of position.

I have endeavored to describe this respiration as it exists in its slightest appreciable degree, at the earliest period of its manifestation. As the disease advances, it becomes very strongly marked, whilst the condition on which its peculiar character depends, viz. a mechanical narrowing of the orifice through which the air passes, becomes much more obvious.

The muscular effort, in the latter stage, becomes very strong, both in inspiration and expiration. During inspiration, whilst all the muscles concerned in it are in the highest state of activity, the mechanical impediment against which they act, is often strikingly displayed by the falling in of the soft parts about the neck and clavicles, at the epigrastrium, and between and along the lower edge of the ribs—the air not passing in through the narrowed opening of the glottis so rapidly as the dilatation of the chest by the increased muscular effort would render necessary. The expiration is chiefly characterized by the amount of force employed to expel the air. In health the expiration is usually easy, and accompanied by little effort. Where there is no unusual obstruction, the mere tendency to collapse of the lungs, would be sufficient for the expulsion of the air, as we see in the dead body; so that the walls of the chest have merely to follow up this contraction, without adding to its force by any muscular effort. But in croup, this is not enough; and we generally find that the air is blown out forcibly against the mechanical resistance occasioned by the disease. We find the same strong contraction of the muscles concerned, especially of the abdominal muscles, which is observed when air is blown out forcibly through a narrow passage.

This is the proper breathing of croup; becoming more and more intense as the disease approaches its termination, till the whole life of the individulal seems, as it were, to concentrate itself in this one effort. The patient in this extreme condition seeks, by a multitude of changes of place and position, to find some alleviation of his agony; the cough, and with it the voice, have become nearly extinct; and his inarticulate appeals and beseeching looks for relief to those from

whom he is accustomed to look for it, constitute one of the most touching scenes which we are called upon to witness in the practice of medicine. Happily the extreme suffering usually, though not always, subsides towards the close of life, and death takes place at last with comparative ease.

In the advanced stage of croup, the breathing is often modified by circumstances other than the mere mechanical obstruction at the upper part of the larynx. After a certain period the false membrane is in some places separated from its adhesion to the mucous surface, by the secretion of pus. The passage of air to and fro, and the efforts of coughing, detach it partially from its adhesion, and break it up more or less into shreds, which however still adhere at one of their ends. These ragged portions of membrane, mingled with the pus, move up and down the air passages, causing some variety in the sounds and also in the actual difficulty of breathing. Death is sometimes very suddenly produced by a collection of this material into a mass which becomes impacted in, and thus plugs up, either the upper or lower part of the larynx. This at least, from the state in which the parts are found on dissection, would appear to be the mode in which death takes place.

The respiration may also be modified in croup from a congestion or inflammation of the lungs, which occasionally supervenes. The embarrassment of respiration has also sometimes appeared to be increased by an accumulation of air in the lungs, which arises from a deficient balance between inspiration and expiration. Owing to the greater ease with which we can make extraordinary and continued efforts of inspiration than we can of expiration, a greater quantity is admitted than can be readily expelled, before the suffocative feeling of the patient impels him to a new effort for relief.

But although there may be a combination of the respiration of this disease with that produced by other affections of the throat or lungs, yet the respiration of croup is in its nature and character essentially distinct from them. In them the difficulty of breathing and the unusual muscular effort may arise from a variety of causes, producing great varieties in the modes of dyspnœa; in croup the one essential condition is the mechanically contracted state of the passage through which the air passes, and all the peculiarities of the dyspnœa proceed from this condition. In one particular the breathing of asthma resembles that of croup, viz. in the intensity of the effort by which the current of air is made to move in both directions against a

mechanical resistance; but the point of the resistance and consequently the other circumstances of the function prevent the resemblance from extending to other points.

The *first* form of croup, then, is distinguished by the cough, the voice, and by a peculiarity of the respiration, which I have attempted to describe, and which, for the sake of distinguishing it in this essay, may be called *intense*.

In the cases of the inflammatory croup, which constitute the *second* form of the disease, the condition of the voice, cough and breathing are precisely the same as in the cases of the first class. There is no certain way by which, so far as these symptoms are concerned, cases of the one kind are to be distinguished from those of the other. The cases enumerated among the second class were of all degrees of severity, but none of them were fatal. Cases, however, of croup which terminated fatally, and in which no membrane was found on dissection, are recorded upon very high authority. To these we shall have occasion to advert hereafter. In addition to the symptoms proceeding from the condition of the cough, voice and respiration, I have noted, in a few examples of this form of the disease, a tenderness of the larynx on pressure.

As cases of this class are then usually favorable in their termination, whilst those of the first are usually fatal, the diagnosis between them, in the early stages especially, becomes of very great importance, both as regards prognosis and treatment. Of the means by which this distinction may probably be made, and of the grounds for believing these two to be essentially distinct diseases, and not different states or conditions of the same disease, I shall take opportunity to speak, after considering the other two classes which have been enumerated.

The *third* includes certain cases which are generally designated as *spasmodic croup*, and sometimes as *spasmodic asthma*. The attack is always sudden, and usually occurs after the subject has been, for some time, asleep. Very often it occurs in the evening, during the first sleep of the child, before its parents have retired to bed; but perhaps as frequently at a later hour of the night, or very early in the morning. The patient wakes in great distress for breath. His inspiration is attended with great effort; it is loud, ringing, shrill, somewhat resembling the hooping inspiration of hooping cough, but louder and more sonorous. The expiration is comparatively quiet and easy. The voice, at the same time, is hoarse and broken, and

there is a loud, hoarse, barking cough, which closely resembles that of the preceding kinds, and indeed alone, would not serve as a mark of distinction from them. These cases seem occasionally to arise from indigestion; but more frequently we can trace their occurrence to cold, especially as they have been often preceded for a few days by symptoms of catarrh. When left to themselves, they will usually subside spontaneously, but from their suddenness and violence, they cause great alarm, and call for immediate assistance. They rarely fail to yield to an emetic or venesection, leaving behind them for a longer or shorter period, rarely for more than twenty-four hours, some hoarseness and some degree of the croupy sound of the cough, with a little huskiness or stuffness of breathing. At no period is there any proper *intensity* of respiration.

These cases, from their suddenness, the time of the attack, the great violence of the first symptoms, and the consequent alarm which they create, produce a stronger impression on the minds of common observers and even of many practitioners, than those of the other kinds. This mode of attack is most closely associated in their minds with the term croup; and it is regarded as tending, if not checked, to terminate in the same state of things with cases of the first class. So far as the cases before us are concerned, however, this never happens, and of the whole number included under this examination, no one proved fatal.

The fourth class includes cases not falling under either of the above, and yet frequently presenting a very close resemblance to them. The subjects usually exhibit at first the symptoms of common catarrh. After a few days the voice becomes hoarse; the cough become croupy, and there is tightness, oppression, and some approach to the croupy sound of respiration; there is, however, no intense or exalted action of the respiratory muscles, and no indication of that mechanical impediment to the current of air which exists at the rima glottidis in the two first forms of the disease. Still the resemblance is sometimes quite close enough to cases of these forms, in their earliest stage, to occasion some anxiety, and there is also sometimes a sudden attack of dyspnœa, with loud, shrill and sonorous breathing, which imitates the symptoms of the third form, and is perhaps to be regarded as an attack of the same kind.

The cases of this form yield gradually, the croupy character wearing off in a few days, and leaving behind simply catarrhal symptoms. I suppose them, from the mode in which they come on and go off, to

be properly a catarrhal inflammation of the mucous membrane covering the organs of voice. We frequently observe that the catarrhal affection of the same membrane which occurs in the first stage of measles, is accompanied by the same croupy symptoms as those which have been now described—going off with the other catarrhal symptoms. In a few instances the attacks of this form of croup have terminated in severe bronchitis, or in inflammation of the lungs themselves. But among the 56 cases included above, there was no one fatal.

Having thus described these several forms of this disease, and stated in general what seemed to be their nature, the question now arises as to the justice of the distinction which has thus been assumed to exist. Is there any sufficient ground for such a distinction? Are these different cases different diseases? Are not the favorable ones, which constitute so large a proportion of the whole number, similar in their nature to the more severe; only of less severity in their origin, or else modified and controlled in their course, by the influence of treatment. These questions it is obviously of great importance to the prognosis and treatment of the cases in question, to be able to answer correctly. If we can with regard to a large proportion of them confidently predict from the outset a favorable issue, the practitioner and the friends will be saved much unnecessary anxiety, and the patient many annoying and debilitating remedies.

I proceed, therefore, to state the grounds for a belief that the first form of croup is a disease essentially distinct from all the others, and that it depends on a peculiar pathological condition to which they have no tendency. Whether there be any equally marked distinction between the other forms, it is not of the same practical importance to determine; and as we have no sufficient materials for a satisfactory inquiry into the question, our attention will be confined to the evidence for the distinct character of the first form.

Every physician is familiar with an affection of the throat, both in adults and children, consisting in an inflammation of the mucous membrane, of that peculiar character which produces the effusion of a layer of coagulable lymph, or false membrane. The connexion of this affection of the throat with croup was long since pointed out; and it is well known to practitioners among us, that this complaint, known familiarly, though inaccurately, under the name of "ulcerated sore throat," often accompanies or is followed by croup, and that croup thus connected is peculiarly fatal in its character. This circumstance in the history of croup was many years since strongly impress-

ed upon my mind by an eminent practitioner in this neighborhood. I was in consequence led, in all cases of croup, subsequently to this period, to make a careful examination of the fauces, with the view of determining exactly the extent to which this visible affection of the throat was connected with the more important disease.

Two causes prevent the completeness of these observations. We are very apt, in making record of cases, especially of those which appear of a slight degree of severity, to omit the *noting* of negative facts, even when they have been actually the objects of attention. Hence, although I have very rarely failed to examine the fauces in any case of supposed croup, I have often in the lighter cases, and sometimes in the severer, failed to note their condition. The second cause of incompleteness is the impossibility in some patients, from their terror and consequent resistance, of getting such a view of the parts as would authorize us to pronounce decidedly what their state is. Notwithstanding these circumstances, the state of the throat has been noticed and recorded in a sufficient number of cases to afford very fair materials for inference.

With a view to this examination, I may include a considerable number of other cases, besides those which constitute the particular subjects of inquiry in this paper, which have been noticed at other times, or in the practice of my friends. Including these cases with the 22 above referred to, I have memoranda, more or less complete, of 39 cases of what I have denominated membranous croup. The state of the fauces was observed and noted in 33, and of these, in 32 a false membrane was present; most frequently, and sometimes only on the tonsils, sometimes on other parts also, as the palate, uvula and pharynx. In one case no such membrane was present; but it was found to exist in the larynx after death. In three of these 33 cases, recovery took place; all the others were fatal. In 14, an examination was made after death, and the usual appearances were found to exist in all of them.

On the other hand, I have memoranda of 109 cases of what I have classed as the other forms of croup, and of these the state of the tonsils and fauces was noted in 45. In no one was there such a condition of the parts as was found to exist in the membranous form. In three cases there was indeed a thin, slight exudation on the tonsils, of the color and appearance of starch, like that which is sometimes seen on the edges and surface of the tongue. This I apprehend to

be a formation of an entirely different nature from that which exists in the other class of cases. Of the 45, 12 were of the second, 11 of the third, and 22 of the fourth class.

From this statement, it seems probable that the appearance of a false membrane upon the tonsils or other visible part of the throat, in a case of croup, may be regarded as a pretty certain diagnostic sign that it is the membranous form of the disease; and its absence as a pretty certain indication that it is one of the other forms. Still there will be exceptions. There will be cases in which the membrane is formed in the larynx, although it has not appeared in the throat; and there may be those in which a membrane exists in the throat, unaccompanied by a similar condition of the air passages. Of the former I have recorded one example; of the latter, none. How frequent such exceptions will be, must be determined by more extensive observations. If they are not more frequent than they have been among the cases here recorded, the observation of this symptom will afford a sufficiently safe guide, since of 75 cases in which it was looked for and the result noticed, it failed as a diagnostic sign in but a single instance.

The question now presents itself, what are the grounds for believing that the two forms of the disease which I have distinguished as membranous and inflammatory, are not the same in different degrees or in different stages? and may not pass one into the other? The grounds are—

1. The very great preponderance of fatal results in the membranous croup and a similar preponderance of recoveries in the inflammatory, and the evidence which exists that in the few cases of recovery from the former, the membrane has been formed, and in the few cases on record of death from the latter, that a membrane has not been formed—afford strong reason for believing that the diseases are essentially different.*

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* No fatal cases having occurred of inflammatory croup under my own notice, I am happy to be able to avail myself, in support of the views above taken, of an account of four such cases, contained in the first volume of the New England Journal of Medicine and Surgery, by James Jackson, M.D., formerly Professor of Theory and Practice of Physic in Harvard University. The symptoms in all these cases were unquestionably those of croup. In one of them bronchotomy was performed.

In the first case, "the mucous membrane of the larynx was much inflamed, and smeared over with a quantity of loose mucus, but without any false membrane. The inflammation extended into the trachea as far as could be examined without opening the chest."

In the second case, "the appearances in the larynx were the same. The lungs were more full of blood than usual."

2. The formation of a false membrane does not seem to require either an advanced stage or a very intense degree of the inflammation from which it proceeds. It is rather the result of a peculiarity in the kind of inflammation, than of any period or degree of it. It appears to be a very early product of the inflammation, if it be not indeed almost contemporaneous with it. It resembles in this respect the similar effusion taking place on the serous membranes, which in them occurs very early, and has even been supposed to be the first act of inflammation. In the common inflammation of the tonsils which is accompanied by this symptom, a layer of lymph is observed to be effused over the surface of the part as soon as any signs of disease exist.

3. The circumstances attending recovery from simple inflammatory croup differ materially from those which accompany recovery from membranous croup. In the former the amendment is rapid and speedily complete. There is left behind only a moderate soreness of the larynx, and, in the worst cases, some hoarseness. There is at no time any copious or solid expectoration. In the latter, recovery is slow, unequal, and accompanied by phenomena which must neces-

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In the third case, "there was not any coagulable lymph, the mucous membrane was highly inflamed and swollen, and the rima glottidis was thus very much narrowed. The membrane was smeared over with a thick mucus."

The fourth case I give at length in the words of the author.

"I was called to this on Sunday, July 5, 1812, at 3 o'clock P. M. The disease had commenced 20 hours before, and was very strongly marked. The symptoms were considerably mitigated after vomiting. I tried in vain to take blood; the child was very fat, and the veins were all hidden, even the external jugular. The respiration grew bad again before morning, but the patient lived till the next morning, the 7th, so that the disease continued two days and a half, or 60 hours. In eight hours after death, Dr. Bigelow examined the body, and the following is his report of the appearances. 'The trachea with the larynx was removed. The whole tube was pervious as usual, excepting the presence of a large quantity of mucus of the ordinary consistence. On dividing the larynx and trachea at the posterior side, and exposing the internal surface, the mucus being removed, a number of distinct red spots were discovered, of considerable size, on the lining membrane. One of these was immediately below the glottis. Between the mucus and the lining membrane there was no factitious substance whatever, nor any appearance the least resembling the membranes which I have seen formed in some other cases of croup. The lungs were not examined.'"

"In the other cases I had thought it possible that the disease had not continued long enough to allow the effusion to take place, as the patients all died in less than 48 hours from the attack. But in this last case such a supposition cannot be admitted; for I have in my possession a preparation in which the false membrane is exhibited in great perfection, and this came from a patient of Dr. Channing which I had seen with him, and in which death had occurred in about 30 hours after the seizure."—*N. E. J., Vol. 1, p. 383.*

The history of these cases, especially with the authority upon which they are recorded, affords very satisfactory evidence of the existence of a class of cases like those which have been above described, of a disease with the symptoms of croup, but without the formation of a false membrane either in the air passages or upon the visible parts of the throat.

sarily attend the separation of the membrane, and the process through which the diseased mucous surface must go in order to its restoration to a healthy condition. The natural cure of the disease takes place by the occurrence of the suppurative inflammation upon the diseased surface, by which the false membrane is thrown off, and the mucous membrane then gradually returns to its natural state. In examinations after death, we usually find that this process has begun in the trachea, the membrane being there separated and often broken up into shreds, whilst the inflamed surface is covered by a layer of pus. Above, in the upper part of the larynx, around the glottis, the false membrane usually remains closely adherent. It is obvious that recovery might always take place could the parts be spared long enough from their functions to go through the necessary steps—and it is also obvious when it does take place, that it must be accompanied by a copious expectoration of pus, and of the membrane either in pieces, if firm enough, or else broken up and partially dissolved by the pus. Now these appearances do not accompany recovery from even the severest cases of the inflammatory croup, whilst they do accompany recovery from well marked cases of the membranous form.

Of the three cases of membranous croup which are noted as having recovered, there are but two of which I have such an account as would justify me in presenting them as fair examples of the processes through which the parts pass in recovery. These were both of the most decided character, and had arrived at that stage of the disease in which we expect a fatal event to occur almost from hour to hour. In the first of them, six days elapsed before any sensible mitigation of the symptoms, and even then the progress to recovery was very slow and apparently doubtful. Improvement was attended by a copious muco-purulent expectoration, in which it is true no large pieces of membrane were ever detected, but of such a consistence and appearance as would favor the belief that the membrane had escaped in a comminuted or partially dissolved state. After the probable removal of the membrane, there was for some days a bloody expectoration, the voice did not return, and it was indeed many weeks before it resumed its natural tone.

In the second case, a considerable portion of the membrane was spit up in a tubular form, after a violent fit of suffocative cough, and this was followed by the rejection of smaller pieces, mixed with a muco-purulent, at first, and then a bloody expectoration. There

continued an entire loss of voice for more than a week, and for at least ten weeks after recovery it had not regained its natural tones.

The contrast is very striking between the protracted character of these recoveries, and the speedy return to health of all those who labored only under the other forms of the disease, however severe.

The observations to which the preceding remarks relate, were all made in this city and its immediate neighborhood; how far they correspond to the disease as it appears in other places, must be left to others to judge. So far as they go, they appear to me to justify the following conclusions.

1. That the only form of croup attended with any considerable danger to life, is that which is distinguished by the presence of a false membrane in the air passages.

2. That the existence of this membrane in the air passages is in a very large proportion of instances indicated by the existence of a similar membrane in the visible parts of the throat.

3. That this affection differs not in stage or degree, but in kind, from all the other cases which are commonly known by the same name, and that the latter have no tendency to become converted into or to terminate in the former.

As my intention has not been to write a complete history of croup, I have omitted all such notices of the symptoms, cause, morbid anatomy, &c. of the disease as have no direct bearing on that point in its character which it was my desire to illustrate. It may not be amiss, however, to record, in connection with this paper, a few circumstances with regard to its history, which have been determined from an examination of the cases before us.

Croup is often regarded as a disease which attacks suddenly and violently. This is only true of the milder forms. Genuine or membranous croup is commonly rather gradual in its approach, and consequently often insidious. It supervenes often on the common sore-throat of children; and in such cases, though its development is frequently rapid and apparently sudden, yet a careful examination of the past history of such a case will generally satisfy us, that although it may have had a sudden outbreak of violence at the time it was supposed to begin, yet that it had really been coming on for several days. Of 30 cases in which I have had an opportunity of determining the mode of attack, in only two could it in any proper sense be called sudden, although in many, the attention of friends was called to it quite unexpectedly, by a rapid increase in the violence of the

symptoms. A sudden and violent attack is, therefore, to be regarded as affording a favorable indication of the character of the case in which it occurs. The unexpected manner in which croup sometimes steals upon the common sore throat of children, should lead always to the careful inspection and watching of such cases. It is true that but a very small proportion of them do terminate in this way ; but as it is the only considerable source of danger, and the only way in which they are likely to have a fatal termination, the possibility of such a course of things should not be overlooked. No case of this kind can be regarded as entirely safe from such a result. The danger is even not confined to childhood. Two of the above named cases of fatal croup occurred in females of 12 years of age, in which it had supervened on this affection of the throat.

The membranous croup also sometimes occurs as a sequel to the affection of the throat in scarlatina. The most common primary affection of the throat in this disease, is of the same kind with that denominated the ulcerated sore throat, viz. an inflammation with an effusion of false membrane upon the parts inflamed. When croup supervenes upon this, the case is usually very rapid and inevitably fatal. Of the cases above enumerated, two were of this character. A third occurred to me, not enumerated among them, in which there were no symptoms of croup during life, the patient apparently dying from affection of the brain, but in which the usual appearances of croup were found after death. The subject of this was a young man 17 years of age. These cases all occurred between eight and ten years since. None have been observed during the more recent periods of the prevalence of scarlatina.

Croup varies considerably in its duration ; I mean its duration after its characteristic symptoms are fairly developed and there is reason to believe that the membrane is formed. Of 23 cases,

1	continued	1 day from distinct croupy symptoms.
6	"	2 to $2\frac{1}{2}$
9	"	3 to $3\frac{1}{2}$
3	"	4
1	"	5
1	"	9
1	"	11
1	"	19

Nineteen cases, or more than three-fourths, therefore, were of four days duration or less.

Croup, in this form, rarely attacks children under two years of age. Of 30 deaths and 3 recoveries, of which the ages were known,

Deaths.	Recoveries.		
1	0	took place at	12 months.
1	0	"	18 do.
5	0	"	2 to 2½ years.
3	0	"	3 to 3½ do.
8	0	"	4
6	1	"	5
2	0	"	6
0	2	"	7
1	0	"	8
2	0	"	12
1	0	"	17

Twenty-two, or two-thirds of the cases, occurring between the ages of 2 and 5.

It will be seen by the following statement of the ages of 95 patients affected with croup of the other varieties, that the tendency to the disease in them exists at a much earlier age. Whilst but one case in 16 occured under two years of age in the first class of cases, 23 out of 95, or about one in four, happened under the same period among the others.

Age.	Second form.	Third.	Fourth.	Total.
Under 1	1	1	3	5
1 to 2	2	5	11	18
2 to 3	6	6	11	23
3 to 4	2	8	5	15
4 to 5	1	6	3	10
5 &c.	1	3	3	7
6	1	1	2	4
7	1	2	5	8
8	0	0	2	2
9	0	1	0	1
10	1	0	0	1
11	0	1	0	1
	16	34	45	95

In cases of the first kind, the tendency to the disease seems to be about equal in the two sexes. Of the 22 cases embraced in this inquiry, the number of each sex was precisely the same—11 males and 11 females. Adding to them 12 other cases in which the sex is

noted, we still have numbers too nearly equal to indicate any peculiar tendency to the disease in either sex, viz. 16 males and 18 females.

In cases of the other forms of croup, the difference seems too great and too uniform to be merely accidental. In

18	cases of	2d class,	11	males,	7	females.
35	"	3d "	25	"	10	"
56	"	4th "	33	"	23	"
			69		40	

As it is of some interest to observe the degree of influence which season is capable of having on disease, I subjoin a table containing a statement of the numbers occurring in the different months, of the cases referred to in this paper. As the number of cases, however, is too small of the first class to afford any very satisfactory result, I have added in another column the number out of 263 deaths from croup, occurring in the several months, drawn from the bills of mortality for this city. I have made the table to begin with November, for the sake of comparing more easily the cases and deaths of the colder half with those of the warmer half of the year. I should observe that the several years vary very much in the amount of mortality of the several months. Thus in the month of January, there was in one year 13 deaths, in another year only one, and a similar though less remarkable inequality in other months. Still the results are upon the whole too uniform to leave any doubt of the greater tendency to these diseases in certain periods of the year.

	Membranous Croup.	Other Forms.	Deaths from Croup.
November	2	11	31
December	2	11	31
January	9	14	31
February	2	18	22
March	2	9	33
April	2——19	17——80	18——166
May	4	9	14
June	3	6	11
July	1	3	13
August	2	0	13
September	2	5	16
October	3——15	7——30	30——97

ART. IV.—*Tubercular Meningitis in the Adult.* By J. B. S. JACKSON, M.D.

IN the review of Becquerel's work on this disease in children, in the last number of this Journal, it is said to be uncommon in adults, and so I should suppose from the very small number of published cases that I have met with, and from the little that has been written upon it; it would seem to be an exceedingly common disease in children, and comparatively rare in adults. Le Diberder's article (Paris, 1837) is the only one that has treated of it expressly in the adult, one by Valleix (Arch. de Med., 1838) being merely a review of the first. Guersent, however (Art. Méningite, Dict. de Med. ou Rep. Gen., 1839), on this point, gives a table of 80 cases, of which 33 are over 15 years of age, and the result of the few which I have seen goes to establish even a larger proportion in favor of adults.

The whole number of cases of which I have notes, is 16. In the first four, granulations in the membranes of the brain were not observed, as I was not then acquainted with the nature of the disease; of these, two were children, one was an adult, and the case, though rather equivocal, will be given with the rest; the fourth was merely the record of a dissection. Of the remaining 12, seven were adults. To these eight, will be added two others from the Records of the Massachusetts General Hospital; the dissection in these last having been made by Dr. Bowditch. The morbid appearances found in these cases will be analyzed, and it would be desirable to do the same with the symptoms; but, from their great variety, this was found to be impossible. I shall, therefore, give in the first place, a very short summary of the history of each particular case.

1. Mr. C., æt. 22, had had for a long time a frequent, short cough, and before sickness, much headache. Six days before death, which occurred June 19th, 1834, was taken with what appeared to be simple fever. On the 15th, came on insensibility, which continued; nothing peculiar about eyes; pulse from 44 to 144. This was the case in which granulations were not observed in the membranes of the brain; neither is anything said of lymph, though I have no doubt that it was intended in the record, "some appearance of recent inflammation in membranes at base." In the lungs there were an abundance of miliary granulations, a form of disease which is often found in these organs in the tuberculous meningitis of adults as well

as of children; the same also in false membrane over the liver and spleen.

2. Mr. B., æt. 20, had been supposed to have chronic spinal disease. Learned after death, from his employer, a very intelligent man, with whom he had lived for the last six years, that during that time he had been subject to headache. For the last six months, loss of motion of the upper extremities, but not of sensation, and six weeks afterwards a similar affection of the lower extremities. Headache continued, with occasional blurring of sight, but mind entire to the last; appetite craving; bowels well. Some cough for two or three weeks a few months before death, which occurred February 11th, 1837, but disease of the lungs never suspected. Besides considerable tuberculous disease of the lungs and peritoneum, there was some in the brain, with granulations and much chronic disease of the membranes; the amount of lymph, however, at the base was small, but it is remarkable that there should have been any without the existence of acute symptoms.

3. Miss M., æt. 27, died March 4th, 1837. Delirious most of the time for the last two or three weeks, and for two or three days before death objects appeared multiplied. Headache for about four months, and for the last few weeks so severe as to require large doses of narcotic medicine. Besides the disease in the membranes, there was extensive tuberculous disease of the brain in this case.

4. Miss D., æt. 20, died April 12th, 1837. From December 1st, severe headache and imperfect hemiplegia, with irregular motions of the left side. December 25th, had two fits, after which she became better, and for a time thought herself well. February 6th, the symptoms returned, with slow pulse, the stomach and bowels being well. March 10th, another fit. March 29th, came on the acute symptoms; delirium, occasionally giving way to coma; pupils dilated; headache often severe; fit on the 3d and again on the 5th of April; on the day of her death, apparently some consciousness. This patient had no marked thoracic nor abdominal symptoms, being rather fleshy even at the time of death. There was, however, pretty extensive ulceration with tuberculous disease of the intestines and an abundant deposit of miliary tubercles throughout the lungs; in the right hemisphere of the brain some tuberculous deposit, which may have been connected with the hemiplegia, and yet the amount was nothing compared with what was found in the last case, in which paralysis was not a prominent symptom, even if it existed.

5. Miss D., æt. 28, died July 3d, 1837. Previous health good, and at the time of her death moderately fleshy. For three weeks, severe pain in top of head, with dizziness, obliging her after a few days to give up work; appetite small; bowels loose. June 28th, delirium came on, and for the last two days complete stupor. For four days left eye closed, with permanent dilatation of pupil, and before death the head and the mouth were drawn to the right side. Extensive tuberculous disease in abdomen and thorax, with gelatiniform softening of the left hemisphere of the brain, besides the disease of the membranes.

6. Mr. L., æt. 21, carpenter, large frame and strongly developed, died August 7th, 1837. Had not looked quite as well as usual since an attack of cholera morbus one or two months before death. Had also been much exposed to the sun on the roof of a large new building, on which he had been very hard at work. July 21st, headache came on and was an urgent symptom, so long as he could complain of anything. Vomited on the 24th, but not much afterwards. On the 25th he was induced to go to Nahant on a fishing excursion, and suffered much in consequence. On the following day active delirium came on and continued with much irregular motion of hands and arms, picking and working at bed-clothes; would however give a rational answer when spoken to; stupor for the last three days. Some appetite; tongue never dry nor brown; bowels quite costive throughout disease. General aspect that of typhoid fever, the disease of all others for which this is most likely to be mistaken. Strong and healthy as this man seemed to have been, there was a large mass of tuberculous disease in the bronchial glands.

7. Mr. B., æt. 24, died March 4th, 1838. Had been regarded by his friends as consumptive. Very little known of early history, but, for the last eight or nine days at least, there had been for most of the time, active delirium, with watchfulness, wildness and suffusion of the eyes, dilated pupils, rapid pulse, a dry, brown tongue, retention of urine, involuntary dejections when cathartics were given, and altogether great prostration. On dissection, extensive tuberculous disease of kidneys and genital organs, and the lungs crowded with granulations, besides the disease in the membranes of the brain.

8. Miss E., æt. 8, died May 11th, 1838. Had always been subject to headache and melancholy, and had twice had severe acute rheumatism; last attack in January, but had got about well in April. May 2d, there came on vomiting of a green fluid, which continued actively

for some days; much headache; drowsiness, which for the last two or three days amounted to complete stupor; bowels costive, but not obstinately so. The disease in the head was comparatively slight in this case.

9. Miss C., æt. 26, died July 20th, 1840. Previous health perfect. On the evening of July 4th, was out on the roof of a house to see the fire-works, and was taken sick in the night. Gave up work on the 6th. Headache from the time of attack, with sense of confusion, and noises in the ears. Very restless, often getting out of bed. Mind very early affected, but no proper delirium; soon became stupid, but during the last 24 hours, roused so as to give correct answers. Pupils permanently dilated, and for the last four days the left eye was closed. Vomiting and diarrhœa at first, and throughout the disease the bowels were easily moved. Urine freely secreted, as it very often seems to be in these cases; excretions involuntary towards the last. Chills at first; not much heat, but face flushed, with some suffusion of eyes, the general aspect being that of common continued fever. On dissection, considerable tuberculous disease of the lymphatic glands, with miliary granulations in the lungs. The examination I saw, also the patient many times during life, but took no notes of the case, as I knew it would be fully detailed in the Hospital Records. The case is remarkable for the entire absence of chronic symptoms, also for the state of the bowels, which are generally much constipated in this disease.

10. Miss L., æt. 23. The following minutes are from the Records of the Hospital, where the patient died, February 7th, 1842. Was taken with catarrhal symptoms, January 10th, from which she had nearly recovered, when, on the 21st, there came on fever, with headache, dizziness and confusion of mind. Nausea early in sickness. Bowels costive. Countenance suffused, sometimes approaching to lividity; expression vacant. Headache does not seem to have been an urgent symptom, and on one day was reported as wanting; nothing said of delirium. On the afternoon of February 5th, she became unconscious, with permanent dilatation of right pupil, and so continued till the morning of her death, when she roused so as to speak and swallow. This was the only case of which I did not see the dissection, and I regretted it exceedingly, as it proved a solitary exception to the rule as to the existence, in these cases, of tubercles in the lungs or bronchial glands, an exception so rare that Guersent, in the work above quoted (p. 107), has found but one instance re-

corded. Dr. Bowditch, who examined all of the organs with the most scrupulous care, described the granulations in the brain as numerous, quite small, rather soft, white bodies upon the arachnoid and pia mater; numerous in fissure of Silvius on each side, on base of brain and in membranes about the fourth ventricle; some on the vertex and between the hemispheres, and some in each plexus choroides. Recent, white, soft lymph to the extent of one inch about optic nerves. Brain quite healthy except for softening of central parts. It seems to me that this description applies sufficiently to a case of tubercular meningitis, and that it must be received as such, whatever the rule may be.

The general symptoms and the progress of the disease varied much in these cases, as above remarked, and considerably more, I should say, than when it occurs in children. As to the authority for the above histories, five (Nos. 4, 5, 7, 9, 10) are from the Records of the Massachusetts General Hospital; the rest were obtained from the attending physician and the nearest friends of the patients. This diversity of symptoms will perhaps be explained by what follows, nearly all of the cases being complicated with other grave disease, either in the brain itself or in the distant organs.

The dura mater was noted as healthy in Nos. 2, 3, 4, 6, 7, 8, 10; injected in No. 9, and in No. 5 a small ossific deposit.

In all, the arachnoid was noted as more or less dry over convexity of hemispheres, except in Nos. 1 and 9; in No. 5 it was also thickened and rough over the left hemisphere, probably from disease of the brain beneath. This is directly at variance with the remark of Becquerel, who found serous effusion in the cavity of the arachnoid in children in five out of 27 cases, and the same generally beneath this membrane. In 2, 5 and 6 there was a thickened, opaque appearance of this membrane at the base of the brain, and in No. 2 a milk-white opacity beneath and between the anterior lobes and about the cerebellum.

Vessels of the pia mater moderately congested in 3, 4, 6, 7 and 8, more than usual in No. 2, and less in No. 5; in 9 and 10 much injection of membrane about granulations. In eight cases there was very little or no serous effusion in membrane over convexity of brain; some in No. 9, and in No. 1 no record. At the base of the brain, on the other hand, there was a considerable amount of serous effusion in 2, 4, 5, 6, 7 and 9; very little in No. 8; in 1, 3 and 10, no record. In 2, 3, 6, 7 and 8, the membrane had a thickened, fleshy appearance

about the granulations, being semitransparent in No. 7, but red in all the rest; in 1, 4 and 5, no record.

Granulations in the membranes in every case, except the 1st, which was examined before I was acquainted with the nature of the disease; generally firm, semitransparent, and varying in size from a mere point to that of a large pin's head; a few were opaque. In Nos. 9 and 10 they were opaque, being soft in the last and not hard in the first. Proved in many instances to be in the pia mater, and in two cases they seemed to be arranged along the course of the vessels, as they are often found to be in children. Situated about the base of the brain; in all but Nos. 1 and 2, they were noted as being found in the fissure of Sylvius, though not on each side in every case; in 4, 6, 7 and 10, beneath or between the anterior lobes of the brain; in 3, 5, 6 and 10, upon the convexity, and in 5, 7 and 10, about the cerebellum; in 10 there were, and in 5, 6 and 7 there were not, any in the plexus choroides. These granulations are generally thought to be of a tubercular nature, and to be formed previously to the lymph, this last being denoted by the access of acute symptoms, whilst the granulations are marked by more or less chronic disturbance; according to Guersent, it is exceedingly rare that they are latent, whilst tubercles in the substance of the brain are so in one third of the cases. I have never but twice met with granulations in the membranes without lymph, and one of these cases I would here give, inasmuch as the symptoms were decidedly those of an acute disease. The dissection I saw and well remember; but, having made no record, Dr. John Ware, in whose practice the case occurred, has kindly furnished me with the following summary from his notes. Mr. H., æt. 30, had had cough for some weeks when Dr. W. was first called, January 28th, 1840, from which time the case went on as one of typhoid fever, though never having the physical signs of that disease. Generally the tongue was dry, brown and crusted, with sordes on the teeth, and subsultus; pulse not much accelerated till towards the last; active delirium or coma most of time for the last ten days; talking much and catching at imaginary objects; much headache, with knitting of brows; no dejections except from medicine, and excretions sometimes involuntary. Kept his bed about three weeks, and died February 9th. On dissection, a few granulations were found in the pia mater in the usual places, but no lymph; brain watery, with some softening about right ventricle. Lungs filled with miliary tubercles, there being as many in the

lower as in the upper part; also tuberculous disease in right renal capsule and cadaveric softening of stomach.

Recent lymph was noted at the base of the brain in every case, except in the 1st, in which it probably existed, as there was reported "some appearance of recent inflammation in membranes at base," and this expression would not have been used if there had been serum alone. The lymph was yellowish or greenish yellow, except in No. 10, in which it was white; apparently beneath the arachnoid, and infiltrated with serum. In No. 2, the exact situation was not noted; in all of the rest, except the 1st, it was found about the optic nerves; in 3, 4, 5, 7 and 9, it had extended to that quadrangular space bounded by the optic nerves, the pons varolii, and the middle lobes of the brain, and in 4 and 7, over the pons; in 6, 8 and 9, it was found about the cerebellum, and in No. 9 in the fissure of Sylvius, and in the membrane over the pineal gland, with a trace at the vertex. The membranes being otherwise much diseased in the fissure of Sylvius, it is remarkable that there was not lymph there, but none was found, except in No. 9, and perhaps a trace in No. 3. Becquerel found pus in the membranes of children several times; but in the above cases I am quite sure that I never saw it; it is only mentioned once, and then as being absent.

The brain, when first exposed by raising the dura mater, appeared swollen and the convolutions flattened in 2, 3, 5, 6 and 7; in 1, 4, 9 and 10, not noted, and in No. 8 is reported no flattening. The color, consistence and degree of moisture of the organ was for the most part healthy. As to the softening of the central parts, which is so often found in children, the septum was found softened, almost to diffluence, in 5, 6, 7, 9 and 10, also the fornix in No. 10, and the posterior horn of both lateral ventricles in No. 9; in No. 7, the surface of the optic thalami posteriorly and of the tubercula quadrigemina were pulpy, and yet the cerebral substance above was dryish like putty. In No. 4 the anterior part of the left lateral ventricle was almost liquified; but this, it was thought, may have been made in the dissection, the septum being firm. In No. 8 very little if any softening of the septum lucidum; in No. 1 the central parts were rather firm, and in 2 and 3 the fact is not noted. The quantity of serum in the lateral ventricles in No. 3 was ʒ iij., in No. 1 ʒ ij. to iij., in No. 7 ʒ i., in No. 6 ʒ ij. or ijss., in No. 4 ʒ iss. or more, in No. 5 ʒ i. and in No. 9 the ventricles are reported as distended with fluid. In No. 1 the brain was greatly congested. In No. 5 there

was extensive disease about the middle of the left hemisphere, characterized by a yellow color, softening which in some parts was extreme, and a peculiar gelatiniform appearance; not defined, but equal in extent to about two inches square. Within the yellow portion, and contrasting strongly with it, were many small vessels filled with dark red coagulated blood; this disease Cruveilher regards as a chronic affection, but I have met with it several times in acute cases.

Well-marked tubercles were found in the substance of the brain in four of the ten cases. In No. 2 there were three in the cerebrum, and one in the cerebellum, from three to nine lines in diameter; in No. 3 there were ten in the cerebrum from two to three lines, and ten in the cerebellum from three to five lines; in No. 4, three or four in the cerebrum of the size of peas, and in No. 5 one in the cerebellum about as large. Some of these were greyish and transparent, but they were almost wholly opaque, partly firm and partly curdy or softening. They were situated in the grey substance, extending into the white, and were often connected with the pia mater, from which they would seem to have originated, if many had not been found separate from it. In No. 7 there was a doubtful tubercle, and in 6, 8, 9 and 10 it is reported that there were more. The proportion in which the brain was tuberculous in these cases is quite large, considering the age of the subjects. Becquerel having met with this complication in five only out of 17 cases in children, in whom, according to the general observation, tubercles tend much more than in adults to affect a variety of organs besides the lungs. Tubercles in the substance of the brain are generally thought to produce much less irritation than when in the membranes, and often to be quite latent, but, in the present cases, they probably went far to account for the chronic symptoms under which the patients labored.

In the thorax there were more or less old pleural adhesions in 1, 2, 3, 4, 5 and 7, and in 2 and 6 acute inflammation of the membrane.

The lungs were tuberculous in all of the cases except in No. 10, as above remarked. In 1, 2, 3, 4, 5, 7 and 9 the form of the disease was peculiar; the tubercles were scattered throughout the organs, being in some very numerous; remarkably uniform in their appearance, miliary, semitransparent, greyish, firm, rounded, and varying from the size of a pin's head to that of a turnip seed; sometimes two or three would unite to form large masses, and some were slightly opaque; in some also one or two large and curdy masses were found,

seeming to be of a much older date than the rest; in No. 2 only was an abscess found, and that would contain about ʒi. In the two other cases, Nos. 6 and 8, the tuberculous disease was slight, and evidently latent—otherwise the lungs were healthy, except for some lobular pneumonia in No. 10, some low degree of pneumonia in No. 6, and compression of one of the lobes in No. 2 by fluid in the pleura, the result of acute inflammation.

The bronchial glands were healthy in 5, 7, 9 and 10; cretaceous matter in No. 2, and opaque, curdy matter in 3, 4, 6, 8. In the two cases, Nos. 6 and 8, in which the tuberculous disease in the lungs was slight, it formed very large masses in the bronchial glands, in one from 1 to 1½ inches, and in the other from 2 to 2½ inches in extent; such a disproportion is occasionally found in children, but I should think was quite remarkable in an adult. Here may be mentioned a chain of much enlarged, tuberculous, lymphatic glands in No. 9, passing up on each side of the thoracic aorta, besides one in the neck and one about the duodenum.

The heart was enlarged in No. 7, the left ventricle being thickened, and the lining membrane of the left auricle, with the mitral valves, being diseased. In No. 8, a rheumatic subject, there was very slight disease in the valves, with some old adhesion of the pericardium. In the other cases the organ was healthy.

In the abdomen, there was well marked and pretty extensive tuberculous peritonitis in Nos. 2 and 5; in No. 1, universal old adhesion about right lobe of liver and spleen, with fine, semitransparent granulations in the false membrane. In the other cases the peritoneum was noted as healthy, if at all.

The stomach was examined in seven cases. In 2, 5 and 10 there was cadaveric softening, and in 9 and 10 there was considerable injection of the mucous membrane, but the others were not remarkable. The occurrence of softening in this disease has been a point of considerable interest.

The intestines were examined in eight cases. In No. 4 there was a considerable amount of ulceration, both in the large and small; in the last evidently tuberculous. In No. 5, two recent ulcers in small intestine, not tuberculous, and one old ulcer in large. In No. 7, redness, softening and thickening of two or three Peyer's patches, and in No. 6, acute inflammation of the last 18 inches of ileum. In No. 9, some appearance in large intestine like the cicatrices from previous ulceration, and in No. 10 two minute ulcers in rectum. Otherwise the intestines were healthy.

In Nos. 7 and 9 there were in the liver many minute, slightly opaque granulations, both on the surface and in the substance of the organ. In No. 2 there was a peculiar disease which I have met with in children, and which is described and figured by Cruveilher, being apparently an inflammation of the minute bile-ducts; several small cavities were found, varying from one to three lines in diameter, the smaller being filled with a thick, greenish fluid, apparently bile; the larger containing the same with a mixture of pus, the inside of these cavities being lined with something like lymph, whilst the smaller ones were not. In the other cases the organ was well.

Spleen reported healthy in 4, 5, 6, 7, 9 and 10.

Kidneys in 1, 2, 3 and 8 not examined. Healthy in 4 and 6, except for congestion. In No. 10, the case in which there were no tubercles in the lungs, there was in one of the kidneys a small, yellowish, caseous deposit; also in No. 4 a doubtful tubercle. In No. 9 there were a few small, opaque, tubercular looking bodies in these organs. In No. 7 the left kidney was almost wholly destroyed by tuberculous disease, the remaining portion of the organ, at its thickest part, measuring only one third of an inch; three large abscesses existed in the substance of the organ, and there evidently had been others which had opened into the pelvis; the other kidney contained much tuberculous deposit, but not yet softened; the secretion of urine in this case had been very copious, and even after death there were found ʒ xxiij. in the bladder. In No. 5, a few tubercles in both kidneys, opaque, white, and of the size of pins' heads.

In No. 7, besides ʒ xxiij. of urine, as above stated, the bladder contained a small quantity of dark coagulated blood, with a thin layer of curdy matter on the inner surface posteriorly, the surface being generally rather red; in No. 6, ʒ x. or xij. of urine; in No. 1, a large quantity, though it had been regularly drawn off; in No. 9, bladder distended; in No. 10, some urine, and in 4 and 5 the bladder was nearly empty; in 2, 3 and 8, no examination. The secretion in some of these cases was certainly quite remarkable.

In No. 6, besides the extensive diseases of the kidneys, there was a small tuberculous abscess in the epididymis, opening externally, and, the vas deferens being cut open throughout, was found to be enlarged in three different places, each of the cavities being filled with a thin, tuberculous matter. The corresponding vas deferens was about two-thirds as large as the other, and its cavity nearly obliterated. The prostate gland was almost destroyed by an abscess

which opened largely into the urethra, the remaining portion containing a considerable tuberculous deposit; in this diseased mass were 22 minute calculi, such as are occasionally found in the gland.

The uterus in No. 5 was closely connected with the rectum by old adhesions, and had a fibrous tumor growing from the fundus; cavity filled with tuberculous matter, and the Fallopian tubes distended with the same; the substance of the organ, also, to some depth beneath the inner surface, contained an abundant tuberculous deposit. In Nos. 8 and 9 there were some appearances which may have been connected with menstruation; in 4 and 8 nothing remarkable, and in No. 3 the organ was not examined.

Le Diberder saw 13 cases of this disease at La Pitié in the course of ten months. Of these he analyzed five, and on comparison with the above, I find several points of difference, of which the following may be mentioned. In all of his cases the arachnoid was moist, being sticky only in one. The sub-arachnoid effusion was in moderate quantity, and proportioned to the length of the agony. The tubercles in the membranes in two cases were as large as hemp seed and yellowish, and in two others they were as large as peas, yellow, and broke into a pulp between the fingers; I have found no approach to such distinctive characters in the granulations. Tubercles in the brain he does not mention. The lungs more tuberculous, and the bronchial glands less so than in the above cases. The stomach was never softened, and tuberculous disease in the abdomen less than in the above. Of his 13 cases, one only was a female, whereas in the above 10 there were six. Lastly, in all of his five analyzed cases, phthisical symptoms preceded, the intelligence and senses being perfect.

Reviews.

1.—*Traité des Nevralgies, ou Affections Douloureuses des Nerfs.* Par F. L. I. Valleix, Medecin du Bureau Central des Hopitaux, &c.

A Treatise on Neuralgia, or Painful Affections of the Nerves. By F. L. I. Valleix. Paris, 1841. Octavo. Pp. 719.

Neuralgia is one of those diseases for the history of which we are indebted to the investigations of comparatively modern times. The early writers indeed allude to such affections, but evidently they did not distinguish between these and rheumatic and convulsive diseases. About the middle of the last century there appeared treatises on tic douloureux of the face, by André and Fothergill, as well as one by Cotugno on sciatica and femoral neuralgia. In the early part of this century, Chaussier published his synoptical table of the neuralgias, and, dating from this publication, we have several professed treatises on the subject, as well as a great many observations scattered through the different journals. But, as the disease is so painful, authors have rather been disposed to overlook the preliminary important considerations, and to endeavor at once to find out and prove the efficaciousness of therapeutical agents. A well-digested work on the subject then was much wanted, and such a work we find in the book before us. M. Valleix is of the school of observation; he has dedicated his book to M. Louis, and, as we should expect, he puts before us several new cases, related with great exactness and minuteness, and analyzed in a very clear and happy manner. But this is not all. Many have reproached the members of the school, to which M. Valleix belongs, with a total disregard of the labors of the distinguished members of the profession in past ages. Our author has freed himself from any charge of this sort, by a careful search of the records of the past, and by a judicious selection from the labors of those who have gone before him. It is not merely a clear and exact statement of the results of his own observation that he would give us, but, at the same time, by a thorough examination, a careful comparison and a sound criticism, he strives to make us appreciate the extent and the limits of our previous knowledge.

Our author commences with a definition of neuralgia.

"A pain more or less violent, the seat of which is along the course of a nerve, disseminated from circumscribed points, which are true centres of pain, from which lancinating or other analogous pains shoot at varying intervals, and on which, pressure, properly made, is more or less painful."

We may notice then at once, that our author does not propose to consider those pains of the viscera, in which the functions are more or less deranged, but without any apparent organic lesion, and which have been described under the name of visceralgia. Nor does he treat of those lancinating pains shooting over different parts of the body in organic affections, as in cancer. Acknowledging in them a certain resemblance to neuralgic pains, he finds that in other points there are essential differences, so that they cannot all be grouped together with advantage. He confines himself then to a study of the pains in the course of the principal nervous trunks which ramify over the surface of the body. These he considers in seven chapters, distinguishing the different forms of the disease by names taken from the nerves, in the course of which the pain is felt. An eighth chapter is devoted to a general consideration of the disease. We propose to follow the author in his own method, and we shall endeavor to dwell on whatever is peculiar to him, with as much detail as our space will admit.

We begin then with trifacial neuralgia. M. Valleix commences with a history of the disease. He then states that the number of facts offering the indispensable conditions for an analysis, is 55. Fourteen of these are new, 12 of them original, two communicated by a friend. He here takes occasion to remark that the common opinion of the great number of valuable observations to be found in books, is erroneous. Cases indeed abound, but so imperfectly related, taken with so little care, and often brought forward to support an opinion or a theory, that they are worthless. New cases, carefully observed, and stated with minuteness and precision, are much wanted. These 55 cases are now carefully examined and analyzed, and in this way the numerous points which come up as he goes on to study the disease, are considered and disposed of. Thus the seat of the pain was twenty-three times on the right side, twenty-one times on the left side, and twice on both sides. We see, then, that double neuralgias are very rare, and that one side of the face is not particularly predisposed to take the disease. But, in our author's definition of neuralgia, we have seen that he speaks of circumscribed

points as true centres of pain, from which lancinating pains shoot, and on which pressure is painful. These points correspond with those where the nervous filaments become superficial. Thus, where the supra orbitar branch comes out to be distributed superficially, we have one of these centres of pain, which may be known as the supra orbital point. A less circumscribed point is to be found on the edge of the orbit, and this is called the palpebral point. A third point is on the side of the nose, a fourth in the globe of the eye. Five painful points are found in the course of the superior maxillary nerve, as the sub-orbitar, the malar, the labial, the palatine, &c. In the course of the inferior maxillary nerve, there are again five points, as the temporal, the lingual, that of the articulation of the jaw, and that of the chin. Still further, there are painful points in spots where the different branches of the trifacial anastomose. Such a spot is that of the protuberance of the parietal bone, and we have here the parietal point.

We may now ask if any division of facial neuralgia, according to the seat of the pain, can be established. Let us look at the two following tabular views, the first prepared from the fourteen new observations, the second from seventeen cases already published.

Painful	points	in the	3	branches	7 times.
"	"	"	2	"	4 "
"	"	"	1	"	3 "

Painful	points	in the	3	branches	17 times.
"	"	"	2	"	7 "
"	"	"	1	"	7 "

We see, then, that the results of the two tables are nearly the same, that in by far the greater number of cases, all the branches of the nerves are affected. No one, therefore, can question the propriety of our author's determination to consider neuralgia of the face as one disease.

The character of the pain—it is excited or spontaneous. In the fourteen patients observed by our author, pain was always excited on pressure in one or more of the points which have just been mentioned. Of thirty-two cases obtained from various sources, in fifteen the same fact was noted. M. Valleix infers from this, that in all cases, with scarcely an exception, painful points on pressure would be found on a careful examination. For, the fact that they have not been mentioned in some cases, is not as important as their invariable

presence whenever their existence has been inquired into. In 26 cases these points were those where spontaneous pain was felt, in four cases there was pain on pressure but no spontaneous pain, in five cases there was spontaneous pain and no pain on pressure. But here we may ask, how is this pain on pressure to be reconciled with the remark of several writers, that the pain of neuralgia is relieved by pressure? M. Valleix thinks that this may be true where pressure is made over a large surface. He relates a case where the suffering of the patient was partially relieved by resting his forehead on the palm of his open hand, yet, in this very case, the slightest pressure with the end of the finger at the point of emergence of the frontal nerve, excited exquisite pain. Thus it is pressure over limited spots, which causes pain. Pains are also excited by mastication, deglutition and motions of the head. Of eight cases where mastication was almost impossible on account of the pain it excited, five times this pain was seated in the course of the ophthalmic branch of the trifacial, and three times the seat of the pain was along the inferior maxillary branch. In eight cases deglutition was painful, four times the pain was in the inferior maxillary nerve, once in the superior maxillary, and three times in the ophthalmic branch. Motions of the head were painful in two cases only, and in two cases pain was excited by any movement of the eye or of the tongue.

The spontaneous pains were of a twofold character. The dull continuous pain, less violent than the lancinating, was less endurable on account of its continuance. It was felt in all the different points which have been mentioned, but extended beyond those limits within which pressure was painful. This pain was generally in proportion to the violence of the disease. But the lancinating pain, intermittent, returning at variable intervals, often attracted, and almost exclusively, the attention of the patients. Every one experienced it; but in 10 cases only did the pain come on with the disease. There were only eight patients who complained of the pain towards the termination of the disease, at a period when pressure was still painful, and when the permanent pain remained.

These shooting pains did not always originate in the same point; still they always originated in one of the painful points. In 16 cases they followed the course of the nerve. In four cases they followed an opposite direction, in two patients the pains were felt in several directions. Sometimes the darting pain would seem to go over to the nerve of the opposite side. Their extent and their frequency were very variable.

There was not uniformly any thing remarkable in the condition of the organs to which the filaments of the trifacial nerve are distributed. In four cases there was suffusion of the eyes, with redness and photophobia. In 10 cases there was suffusion with redness, but no photophobia. In no case did the sense of smell appear to be affected in any way. In two cases a thin fluid and some mucus was discharged from the nostril of the diseased side. Noise in the ears was complained of by six of the patients who came under the observation of M. Valleix; in three of the cases the noise was heard in both ears. This symptom was generally marked in the access, and was, for the most part, in proportion to the violence of the shooting pains. In five patients the roots of the hair were very sensitive. M. Valleix has noticed salivation in three cases. Spasmodic or convulsive motions were found in only four of the cases observed by himself. But in none of these cases were there any violent contractions, so as to distort the countenance. In the cases related by different authors, 16 patients presented this symptom. And generally, in these cases, the convulsive movements were violent, and in all of them the disease was very severe. We see, then, that spasmodic movements, though an important, are not an essential, nor are they a characteristic symptom, of neuralgia. Nor, though much more frequent in the trifacial than in other neuralgias, is convulsion peculiar, as it is found occasionally in sciatica. The name of tic douloureux is consequently an improper name as applied to this disease, and the use of it has been the reason why the existence of the disease has not been recognized in several mild cases.

In seven of the 14 new cases, there were pains in different parts of the body. In five patients there were pains over the occiput, and in only one was there any pain in the course of the sciatic nerve. M. Valleix has not observed one pain to be replaced by another, in any case, but generally the different pains become more severe at the same time, and as the patient recovered, the different pains subsided nearly at the same time. Still, some most decided instances of this kind of transposition are recorded in books, and one remarkable case of the kind was communicated to the author by a friend. In one case the pain appeared to leave one side of the face and to be fixed in the other. These cases, though, are less frequent than has been supposed.

The principal functions of the economy do not appear to be much affected in this disease. M. Valleix has not found any thing remarka-

ble in the respiration and circulation. In only 15 of the 55 cases is any thing said about the digestion, and in eight of these it was perfectly regular. In the other seven patients there was a loss or diminution of the appetite, nausea, occasional vomiting, slight colic, slight diarrhœa, at different periods of the disease. There was, however, no proportion between these symptoms and the greater or less intensity of the pain. In one patient there were slight chills, not accompanied, however, by heat or sweating. The general heat was slightly increased twice, so that facial neuralgia may be said to be still less a febrile disease, than the other forms of neuralgia.

The commencement of the disease was sudden three times out of 16, and in the majority of cases the different painful points were affected in succession, and the pain attained its greatest intensity gradually. In 10 of 46 cases, the periodicity of the affection was evident, and in four cases it was doubtful. The duration of the periodical attacks varied from one to seven hours, and more commonly there was only one attack in the 24 hours. M. Valleix notices the difference between his results and those of M. Rennes, who, in the space of fifteen months, observed 32 facial neuralgias, which were all more or less evidently periodical, and all of which recovered under the use of sulphate of quinine. There evidently was some miasmatic influence. It is a little remarkable, however, that trifacial is the only neuralgia which presents these phenomena. Irregular paroxysms were found in almost all the cases which have come under the cognizance of M. Valleix. Still, the disease cannot be regarded as intermittent, since the dull, prolonged pain continued to be felt, in the intervals of the paroxysms of lancinating pain. The duration as well as the severity of these paroxysms was very variable. In six cases the paroxysms were more frequent in the night, in eight patients they were less so, in seven they were as frequent in the day as in the night, and in eight cases they varied. In only two of 14 patients, were the paroxysms preceded by any symptoms. M. Valleix does not find that atmospherical variations have any influence over the paroxysms to cause them. In all the cases the disease disappeared gradually. The duration of the affection varied from ten minutes to three months. And, lest he might be accused of exaggeration, our author relates a case where the disease was perfectly well characterized, and yet where its duration was that of the first mentioned of the above periods. In three quarters of the cases analyzed by our author, the patients recovered; but this, like the other neuralgias, is

very apt to return. Of the 14 patients observed by M. Valleix, four suffered from a recurrence of the disease, after a longer or shorter interval of perfect recovery.

For the predisposing causes of the disease, M. Valleix consults the tables of M. Chaponniere as well as his own. It results from this examination that the four periods of ten years, between twenty and sixty years, are equally subject to the disease, which at the same time appears to be as frequent in one sex as in the other. Our author is not able to satisfy himself perfectly as to the influence of constitution and temperament. In the cases examined by himself, he does not detect any influence of hygienic constitutions. And the disease has appeared to be hereditary in very few cases. Of the 10 females whose cases came under our author's observation, there was only one who menstruated regularly. No case could be attributed to a syphilitic virus. Of 21 cases, more than half of them occurred in the three winter months.

As to occasional causes, eight of the 14 subjects of original observation knew of no cause. In five patients the disease appeared to follow exposure to cold. In one case the disease came on after the extraction of a tooth. The remark of M. Chaponniere, that caries or exostosis of the teeth is rarely a source of neuralgia, is verified in the researches of our author.

In the chapter on diagnosis, M. Valleix examines, with great care, the question whether there is any such thing as neuralgia of the facial nerve. This question, anatomically and physiologically, has been considered by M. Bérard, who has answered it in the negative. And of the pathological facts given as instances to prove the existence of this affection, many of them do not contain such particular statements as would justify us in coming to any conclusion, and those detailed with more minuteness, with the exception of that of Weisse, ought not to have the title given them by their authors. In cases similar to these last, the seat of the pain has been found to be in the occipital, not in the facial nerves. So that after a most careful study of all the facts, there is no proof as to the existence of a painful affection of those nerves.

Having thus far followed our author in what he has to say of trifacial neuralgia, let us open at his second chapter, in which he considers the cervico-occipital form of the disease. M. V. has not observations enough of his own, nor does he find a sufficient number in books to furnish the materials for analysis. He however invites our

attention, relating to us the eight cases which he has been able to collect. In these also, pressure, made on different parts of the head and neck, has been a valuable means of exploration. Several painful points were thus found out, as one between the mastoid process and the first cervical vertebra. This he calls the occipital point, as it corresponds with the spot where the nerve of that name becomes superficial. Another point, called the superficial cervical point, is situated where the principal nerves, forming the plexus of that name, emerge. Lancinating pains appeared also to the patients to exist in the ear itself. Still, as they were not deep, the seat of the pain must have been in the superficial branches by which the external ear becomes sensible. Some of the points were very limited, and might have been covered by the end of the finger. Where the nervous filaments anastomose freely, there the pain was more diffused. The lancinating pains seemed to commence sometimes from the sub-occipital region, and sometimes from just above the mastoid process; thence they seemed to shoot towards the posterior and superior part of the neck, or towards the parietal protuberance. Sometimes these pains, by the communications of the occipital and mastoid branches with the frontal branch of the ophthalmic and the superficial temporal nerve, pursued a course which might have been considered that of the facial nerve, and thus we may understand some cases which have been reported as neuralgia of the seventh nerve. The diagnosis of this affection cannot be difficult. In the painful points, in the direction of the lancinating pains, in the more or less violent periodical attacks, there is enough that is peculiar. In rheumatism of the neck, the movements of the head are painful, and especially so, when to effect them, the muscles must be strongly contracted. Pressure, too, causes a less severe, and at the same time a less limited pain than in neuralgia. The author's remarks on treatment may be considered more conveniently in the general view of neuralgia.

Under the name of cervico-brachial neuralgia, M. Valleix considers what have been described as several different affections by preceding authors. The cubito-digitalis, the supra-scapular, the external muscular cutaneous, as well as others, are all included under the one head of cervico-brachial. As might be supposed, then, the seat of this neuralgia is various, and yet so large and so numerous are the communications between the branches which form the brachial plexus, that it is altogether more convenient to classify the affections of the different branches together, notwithstanding the frequent occurrence

of cases where the symptoms are confined to the course of one of the nervous branches, and of its filaments. In the cases observed by M. Valleix, the cubital nerve is that which has been affected in the most remarkable manner. At the same time the painful points have been quite numerous and well marked. Thus in a case related by M. Valleix, there were two very distinct points in the axilla, one near the vertebræ, corresponding evidently to the posterior branches of the last cervical pairs, another seated perhaps in the supra scapular nerve. A third point on the deltoid, where the circumflex nerve winds round the humerus, and gives off its cutaneous filaments. Again there were painful points where the radial nerve winds round the humerus, and gives off its cutaneous filaments. Others, where the ulnar nerve is so superficial on its passage from the arm to the forearm; others along the fingers. In one case, the darting pains which commenced in one side of the neck, traversed the whole extent of the limb. In this form of neuralgia, the dull steady pain was found by M. Valleix to be uniformly present. Those who have reported observations of this disease, seem to have noticed only the shooting pains. Nor was there any doubt that the pain was increased by pressure. Our author's observations are not sufficiently numerous to authorize him to attempt to settle the course, duration, termination, and causes of the disease. Is an external injury ever a cause? Our author is inclined to the opinion that it may be so. At the same time, in his chapter on diagnosis, he reminds the reader that by this cause the nerve may be contused, and thus symptoms of local irritation may arise, which would be followed by pains of a neuralgic form. Such a case, reported originally by M. Piorry, is related in the book. The patient struck his elbow with considerable force, and a very sharp pain was the immediate consequence. Periodical, lancinating pains occurred in the following days. Another case observed by Dupuytren is cited, where pains were connected with the growth of a small tumor over the cubital nerve, and which disappeared when the tumor was extirpated. These cases are mentioned that the attention of the profession may be called to the subject, with a view to a thorough investigation of so important a point in diagnosis. The cases themselves contain too few details to satisfy any one. Muscular rheumatism may be distinguished, as the pain in it is over a more extended surface, as the lancinating pains are less severe and do not return periodically, and as the pain is greatest on motion.

In the fourth chapter, on dorso-intercostal neuralgia, we have a

subject on which M. Valleix had already published a memoir. Since that time he has observed several new cases himself, others have been communicated to him, so that there is not the same want of proper observation for this form of neuralgia, as for the two that have just been considered. And the disease itself is a frequent one. It is more often found in patients between 17 and 40 years of age. The greater number of patients were females, of a moderate constitution and of a nervous temperament. In only two cases was there reason to suspect a damp and cold dwelling as a cause. The greater number of relapses, however, took place in winter. In no case did the disease come on after sudden exposure to cold. In this connection our author discusses the question whether this form of neuralgia is geneally symptomatic of disease of an internal organ. M. Bossereau, in a thesis which was published a short time ago, maintained that this form of neuralgia in females was almost invariably accompanied with some uterine affection. Thus, in seven patients reported by this author, the catamenia were irregular, there were pains in the lower parts of the bowels which preceded those of the back and of the parietes of the chest. In four cases of neuralgia of the left side, the left side of the neck of the womb was very tender on pressure. Again, in two cases, a double intercostal neuralgia was accompanied by tenderness of both sides of the neck of the womb. M. Valleix, as usual, where it is practical, refers the question to an examination of the facts. According to his analysis, there is some trouble of the uterine functions in nearly the same proportion of cases of sciatica and of trifacial neuralgia, as in those of dorso-intercostal pain; then, as to the existence of pain in the uterine neck, the very fact that this pain is confined to one side, on which M. Bossereau dwells so much, proves his interpretation to be incorrect. For, as this pain is by M. Bossereau himself supposed to be connected with a degree of inflammation of the womb or of the organs connected with it, we ought to find cases where one half of the uterus has been the seat of inflammation, the other half being free from disease. But M. Valleix has looked through all medical literature without finding a single similar case. He himself has observed this pain, and with it a pain in the hypogastrium, also confined to one side; but considering them to be painful points, such as he finds in all neuralgias, he calls the disease a lombo-abdominal neuralgia. And he asks, is it more strange that in an affection of nerves so widely distributed, there should be some disordered function in an organ to which filaments from these very

nerves are distributed, than that the eye should be red and suffused in trifacial neuralgia? This question, however, M. Valleix does not pretend to settle definitively. He merely says, that in the present state of our knowledge, the positions of M. Bossereau cannot be maintained. Indeed, further observation is needed on this very subject. In this country and in England, pain in the side, as an accompanying symptom of leucorrhœa and of uterine displacements, has been noticed. And at the same time, the undoubted prevalence of this dorso-intercostal neuralgia amongst the male sex, shows us that the circumstances under which the disease may arise are various.

Of the symptoms of the disease, the pain on pressure is considered by M. V. to be the most prominent. It was found in every case, more commonly over rather circumscribed points, and separated from each other in the course of the same nerve, by considerable intervals. Thus the first of these points was in the posterior part of the intercostal space, just outside of the spinous processes, and nearly opposite the hole between the vertebræ through which the nerve passes. This may be called the posterior or the vertebral point. A second point, about midway in the intercostal spaces, may be called the middle point, and then between the cartilages, there is a third point, the anterior or sternal point. These three points correspond with a more superficial distribution of the nerves. But, besides the pain on pressure, there was spontaneous pain, and of two kinds, the one a dull, permanent pain, the other lancinating. The frequency of these was always in proportion to the violence of the disease. These pains, however, were found to exist in only 15 of 23 cases, so that they cannot be considered a characteristic symptom. They sometimes seemed to commence from the vertebral column, and sometimes from the anterior part of the chest. In one patient they were felt in the three points above mentioned, at the same time. The dull, steady pain was found in all the cases, and at all periods of the disease, except in two instances, where, when the patients were perfectly still, their freedom from all pain was only interrupted by the shooting or lancinating pains. It was found in all the painful points, but not always in all at the same time, and more frequently posteriorly than elsewhere. To show how distinct and evident these painful points are, M. V. gives an account of a little girl nine years of age, who, on being asked where her pain was, put the end of her finger on those three very points; and on examination, the points which were in the eighth and ninth intercostal spaces, were very limited. In 29 pa-

tients there were neuralgic pains in other parts of the body. In nine cases, the pains were in the head, in six cases of the lower limbs, in six cases of the upper limbs, in eight of the loins and hypogastrium. We see, then, the truth of the observation of Nicod, that it is rare to find neuralgia confined to any one part. M. V. also finds that in the affection we are now considering, the pain of the back and side, as well as the accompanying pains in the head and limbs, were on the left side in a large proportion of cases. But he found also pains which were not neuralgic. Five patients complained of headache, which lasted a few days, and was accompanied by slight febrile symptoms and trouble of the digestive organs. Rheumatic pains were found in several cases. One patient had a torticollis, from which he recovered in four days without the use of remedies. Still, inasmuch as the accompanying pains were decidedly neuralgic in the greater number of instances, we must admit that there was in the economy a predisposition to this disease. M. V. did not find any lesion of the respiratory organs. In a few patients there was some trouble of the digestive organs, as loss of appetite, nausea, diarrhœa. But as these symptoms were not connected with any exacerbation of the disease, and as in fact there was no proportion between the two classes of symptoms, we cannot admit a disorder of the digestive organs to be a symptom of intercostal neuralgia. Nor, on a careful examination of all the cases with reference to the condition of the heart and the pulse, is there any reason to believe that the circulation is modified. Nor are chills, increased heat of the surface of the body, to be regarded as symptoms of the disease. In 12 of 20 cases, the menses were regular. In no case was there an abundant mucous discharge from the vagina. In two of three patients where the symptom was carefully sought, the neck of the womb was not painful on pressure.

The course of the disease was very irregular. In the greater number of patients the pain did not come on suddenly and severely. When the disease was fully developed, the exacerbations and intermissions of pain succeeded each other most irregularly. How far these were connected with meteorological changes, may to some extent be appreciated by consulting the two tables which we subjoin.

Number of observations.	Temperature.	Pain severe.	Pain slight.	Proportion of severe pain.
23	32°	15	8	$\frac{2}{3}$
55	from 33° to 57°	40	15	less than $\frac{4}{5}$
109	above 57°	63	46	less than $\frac{3}{5}$

Number of observations.	Weather.	Pain severe.	Pain slight.	Proportion of severe pain.
140	Rain	87	53	$\frac{4}{7}$
28	Fair	19	9	$\frac{2}{3}$
9	Snow	9	0	the whole.

We should infer, then, that atmospherical variations had an influence on the severity of the pain, and that the pain has constantly been more severe when it snowed. M. Valleix, however, cautions his readers not to expect to find in every case a connection between the state of the atmosphere and the severity of the pain. In his own cases, when the weather has scarcely changed at all for days together, increased and diminished pain, and freedom from it, have alternated frequently. We can only then look to atmospherical variations as one cause of the irregularity of the disease, and we must confess our ignorance of the principal cause. In no case has the disease disappeared suddenly. In all the patients, with but one exception, the convalescence was slow, gradual and irregular. A periodical intermittence was observed in only one case. The pains were more severe in the night than the day in only one case. The duration of the disease was from one to six months. In some cases it was very rebellious to treatment. Of 16 patients treated by M. Valleix, 12 recovered. Of the four others, two experienced no relief, two were partially relieved. M. Valleix has had the opportunity in two patients, who died of phthisis, and who had suffered from intercostal neuralgia, to examine the state of the nerves, and he found them not different in any respect from those of the other side.

In the diagnosis of the disease, there might be some difficulty. It could not well be confounded with pleurisy or with pneumonia. To distinguish it from rheumatic affections of the walls of the chest, might be difficult. Rheumatic pain of the side is extended over a larger space, and its extent is not so defined. The pain on pressure is generally less severe, and the small, well-defined painful points do not exist. The lancinating pains are less marked, nor do we ever find pain in two or three points separated from each other by a certain distance, as is the case in intercostal neuralgia. Rheumatic pain in the trapezius muscle is accompanied by an increased sensibility along the cervical ligament, as well as over the dorsal spinous processes. The superior attachments of the trapezius are painful on pressure, as well as its inferior attachment to the spine of the scapula. The pain is sufficiently marked also in the interval between

these points, and in the dorsal region the morbid sensibility does not exist to the outside of the spinous processes, but only over them. In all cases of rheumatism the pain is felt especially on motion, and more so on sudden motion, as when the patient, fatigued with one position, changes it. We have dwelt more on the distinct characters of intercostal neuralgia from rheumatism, as the diseases have for the most part been confounded by authors. Another interesting question raised by our author, is as to the connection between the disease we are now considering and angina pectoris. Undoubtedly this last name has been given to cases of intercostal neuralgia. Still, in none of the patients suffering with intercostal neuralgia who came under our author's observation, was there that anguish, that sense of impending suffocation which are put forward as the characteristic symptoms of angina pectoris. We may then conclude with our author, that in the present state of our knowledge, we cannot attribute such serious embarrassment of the circulation and of the respiration to a simple neuralgia. Pains darting from a limited point and surrounding the base of the thorax and the abdomen, are often found where there is a softening of the spinal marrow. M. Valleix relates two cases of softening of the spinal marrow and of intercostal neuralgia in the same subjects. Yet the distinctive characters of the latter disease were perfectly preserved. The affection described by some English and American writers as spinal irritation, is believed by our author to be identical with intercostal neuralgia. Still, as he finds peculiar features in some cases which have been reported under this last name, he looks to future researches for a definitive settlement of the question.

Lumbo-abdominal neuralgia is a disease of which we find very scanty accounts in any previous works. Coussoys, in a thesis published in 1812, relates a case, and Nicod has a little to say about it. There is a particular form of this neuralgia, which has attracted more attention. It was called ileo-scrotal by Chaussier, and that author considers it to be the same affection with that described by Sir Astley Cooper as irritable testicle. M. Valleix has not cases enough to furnish a complete history of the disease. From his general description we select the most interesting particulars. The seat of this affection is more frequently on the left than on the right side. The painful points are the lumbar point, just to the outside of the first lumbar vertebra, and in that part of the skin to which numerous nervous filaments are distributed; the iliac point just above the middle of the crest of the ilium; the hypogastric point, above the

inguinal ring and to the outside of the linea alba; an inguinal point near the middle of Poupart's ligament; a scrotal or labial point in the lower part of the testicle, or in the thickness of the labium. There are sometimes two painful points on pressure, and in some cases there are more. In all cases there is quite an interval between the painful points. The pains here are the same as in the other forms of neuralgia. Lumbago is the disease which may most easily be confounded with the one we are considering. But in that complaint the two sides are alike affected, and the pain is confined to the muscular mass of the sacro-lumbalis and longissimus dorsi. Pressure is but slightly painful, but all motions of bending or of straitening the trunk are extremely so.

Of crural neuralgia we know still less than of the form last considered. Our author reports three cases, which, and the remarks on them, are worthy an attentive perusal. Without dwelling upon it now, we pass to the seventh chapter, on femoro-popliteal neuralgia, or sciatica. In the works of Hippocrates we find an allusion to this disease, and the number of authors who have published on the subject in all subsequent time, has been very great. M. Valleix has found 125 observations for his analysis, 15 of which are original, and 21 have been communicated to him by M. Louis. All the observations, however, cannot be brought to aid in his investigations on all the points where information is desirable, as many of those found in various works are wanting in important details. In considering the symptoms, we may first ask as to the seat of the disease. In the 103 cases, there does not appear to have been the same preference for the left side as was noticed in other forms of neuralgia. The painful points are ascertained from the 36 cases collected by M. Louis and the author. In 10 of these, there was pain in the loins, and on both sides, in all cases, with but one exception. In only one case there was no painful point along the hip and thigh. The painful points in the other cases were four in number. One, near the posterior and superior spine of the ileum, was found in every case but one, and in 24 cases it existed from the very commencement of the disease. A second painful point was found near the middle of the crest of the ileum in eight cases. This point, smaller than the preceding, was from a half inch to two inches in width, and from half an inch to an inch in height. A third point was over the upper part of the sciatic notch, and pain in this point occurred in 16 cases. The fourth point was in the neighborhood of the great trochanter, where pain was ob-

served in 26 of the 36 cases. The painful points in the thigh were less distinct, the pain being felt in the whole extent of this region in all but four cases. In 17 cases, a pain more or less violent was felt through the knee, there being one or two points where the pain was particularly severe. These points were in the external parts of the ham, and over the head of the fibula. There were three principal painful points for the leg, along the fibula, over the calf and along the edge of the tibia. Thus, in 28 patients there was pain more or less severe along the posterior edge of the fibula. In 15 patients there was a distinct pain in the calf. The foot was painful in 25 cases, but in only three cases was the sole of the foot the seat of pain. All these points correspond to the passage of nervous filaments from deep-seated parts towards the skin. Pain on pressure was observed by M. Valleix in every case. This, however, was noticed by M. Louis in only 10 of the 21 patients who came under his observation. Of 60 cases published by M. Martinet, in only four was this symptom mentioned. Our author, however, is not disposed to attribute the constant presence of the pains in his own cases to mere chance. His own notes were much the fullest, and the symptom was present in those of the other cases which were taken with most minuteness and exactness. The points of spontaneous pain were not always those of pain on pressure. In 15 cases there was pain on pressure where there was no spontaneous pain, and in 13 cases there was spontaneous pain where there was no pain on pressure. The intensity of this last pain was very variable. In many cases the patient complained of severe suffering when the skin was but touched, whilst pain was produced on strong pressure only in other cases. In eight of 15 patients, complaint was made of pain in one of the points of pain above mentioned whenever the limb was moved, whilst the other seven could move their limbs extensively and in different directions without any pain. When this pain existed, it was in most cases a sensation of being bruised. In only three cases it was lancinating. Twenty-nine of 36 patients were confined to a recumbent posture on account of the pain produced by walking. The pain was not less on or after walking in any case. In six cases pain was felt in the hips on coughing or taking a long inspiration. In two cases this pain extended to the foot. Where the disease was violent, it was impossible to lie on the affected side. Four patients could not sit down without an increase of the pain. We see, then, how great was the effect of pres-

sure to produce pain. There was a constant exacerbation of the pain every night in only one case.

The spontaneous, dull, continuous pain was present in every case, and generally its violence was in proportion to that of the lancinating pains. These were observed in all the cases taken by M. V., but not at all periods of the disease. Thus they existed at the commencement of the affection in only four cases. Three of the 21 patients observed by M. Louis did not suffer from lancinating pain at any period of the disease. These pains seemed always to commence from one of the painful points, but their direction was different in different cases. Thus, of the 36 patients who came under the observation of Messrs. Louis and Valleix, in 16 these pains appeared to shoot from above downwards, in three patients their direction was from below upwards, as well as from above downwards. In eleven patients these pains seemed to be confined to one point. The frequency and the violence of these pains were always in proportion to the violence of the disease. In the greater number of cases, the pain was extended over the whole course of the sciatic nerve. In two cases, however, it was limited to the hip, and in two other cases to the ankle. Besides pains, several patients experienced different sensations in the affected limb. More frequently there was a sensation of cold, not constant, but experienced at different hours of the day, sometimes on getting into bed. Three patients, however, complained of a burning heat, one of itching of the limb, one of a chill confined to that part of the limb which had been the seat of the pain. Cramps were noticed in seven of the 36 cases, coming on always on getting into bed, and not occurring except in cases where the disease was severe, and at that period when it was most so. The violence and the variety of the pains were certainly greater in this than in any of the other forms of neuralgia, except it be in the trifacial. All the patients observed by M. V. complained of pains in other parts of the body. Thus, five pointed to the head as the seat of pain, six to the chest, and two to the loins and abdomen. Where the disease was of one side, the other pains were always felt on the same side. These different neuralgias always existed at the same time, and in no case did one appear to take the place of the other. On the contrary, they increased in intensity at the same time. Eleven patients complained of pain in the forehead, which did not seem to be of a neuralgic character, but was such as often occurs in febrile diseases. Rheumatic pains were noticed in three cases. Cotugno, in his work, has

dwelt much on atrophy of the affected limb. In one case where the disease was severe, M. V. was able to ascertain, by exact measurements taken at different times, that there was some emaciation of the leg. In three patients observed by M. Louis, who suffered from intense pain during three weeks, four months and fifteen months, the leg appeared to the eye to have emaciated. Our author has not found any symptoms from the respiratory or from the digestive organs in the cases which he has analyzed. He has found the state of the pulse to vary rather with the treatment, than with the exacerbations or remissions of the disease. The frequency of the pulse was the same when the degrees of pain varied very much, and in no case was there any irregularity. Chills, heat, or sweats, were noticed in 13 of the 36 cases. In some of the patients they might be attributed to the remedies which were employed. It results from the observation and examination of M. V. that sciatica rarely appears under an intermittent form.

The course of sciatica is as irregular as that of the other forms of neuralgia. In 11 of 27 patients, the disease came on rapidly. The attack was sudden in only one case. It extended gradually, and the increase in the severity of the disease was very gradual also. The causes of the exacerbations and remissions are very obscure. Our author submits in tabular forms the results of his observations as to the effect of atmospherical variations, the influence of which would seem to be less than in intercostal neuralgia. The disease did not disappear suddenly in any case, but convalescence was always more or less slow and gradual. The duration of the disease cannot well be determined. No fatal case has ever been reported. Of 107 patients, 78 recovered, and 12 were partially relieved. Of 36 patients, six suffered from relapses. In three other cases slight returns of the pain were noted. M. V. has not had an opportunity of inspection of the nerve in any case. He examines most carefully all such cases which have been reported, and he does not find that in the present state of our knowledge we can connect the disease with any lesion.

Causes.—The disease would appear to be equally frequent at all periods of adult age. Of 124 patients, three fifths were males. Relapses appear to be much more frequent in individuals of this sex also. In 41 of 59 patients, the constitution was strong and robust; it was decidedly bad and feeble in only two. Fourteen of 55 patients had a nervous temperament, and nine of these were females. Of 27 patients, nearly one half lived in a dark, damp and badly ven-

tilated dwelling. There is no evidence that insufficient or bad food is a cause of the disease. Of 36 patients, only two used freely alcoholic drinks, nor is there any evidence to support the opinion that venereal indulgences predispose to the disease. In five cases the parents had suffered from severe pains, 11 of 21 females complained of disordered menstruation, and in eight of 14 cases there was an abundant leucorrhœa. In four cases these was some disease of the spinal marrow, in no case did the disease appear to be connected with the disappearance of a cutaneous eruption. In only one case was there any reason to attribute the disease to external violence. In the cases examined by our author, he does not find that the disease can be attributed to the influence of syphilitic virus. Of the 36 cases observed by Messrs. Louis and Valleix, there were five where the disease followed an exposure to cold. Of 13 other cases, in 10 cold appeared to be an efficient cause. M. V. very properly regards the assertions of the authors who have reported cases, or who have written on the disease as to the etiology, as entitled to comparatively little weight, inasmuch as the greater part of them have been contented with a most hasty and superficial interrogatory as to this point.

The diagnosis of the disease may present some difficulty under certain circumstances. It is generally very easy to distinguish it from articular rheumatism. Our author relates a case where the two diseases pursued their course in the same individual at the same time. And in this very case each disease was marked by its own characteristic symptoms. A case of coxalgia, which, when first seen, was mistaken for sciatica, is related by our author. Still, in this case the mistake might have been avoided by a careful examination of the parts affected. A case of nevritis coming on after instrumental and tedious labor, is also given. Here there were intermittent lancinating pains, extending through the whole limb, but with these symptoms there existed a partial and sudden paralysis without emaciation. There were also febrile symptoms, which evidently would not have been occasioned by the treatment.

The subject of neuralgia in general is brought before us by our author in the eighth and last chapter. A general history of the disease has often been attempted before. M. V., however, proposes to himself a task which had not been accomplished. The former histories have been too much accounts of opinions and theories. Many statements of facts, from want of evidence, and of care in observation, are

not to be depended upon. Some forms of neuralgia have escaped notice, or have been imperfectly described, till very recently. M. V. collects together the results obtained from the study of each particular form of neuralgia, and thus gives us the general features of the disease, at the same time showing us how far and how much we have progressed towards a knowledge of its laws, and also, what doubtful points are yet to be made clear by further observation. We would commend this chapter to the special notice of the reader. As the facts on which the results are based have been passed in review by us, and as this article is already sufficiently long, we must hasten to what we have omitted till now, the treatment of the disease. Beginning with external applications, our author first asks how far are blisters efficacious? On this subject M. V. has published a memoir in the "Archives Générales de Medecine," for March, 1842, and as this contains also the results of observation subsequent to the publication of the book, we shall take the results from it in preference. Flying blisters were applied to the seat of the pain in 49 cases. More than half of the patients were more than 60 years of age, and in most of them the enfeebling effects of previous disease were present, so that there was no selection of cases such as would be most easily influenced by treatment. The disease had existed for some time in all the cases, from three days to six months or even to years, and in all the cases it was marked by a certain degree of severity. In 23 of the cases, the neuralgia was intercostal, in about two fifths of the cases it was of the head and the arm, in the remainder of the loins and legs. In one third of the cases, one blister applied to the most painful point was sufficient, in one quarter two were necessary, and in the other cases from three to nine were employed. The number of blisters was in proportion to the intensity of the pain, and not to the form of the disease or to its previous duration. In two thirds of the cases a remarkable diminution of the pain was noticed within twenty-four hours after the application of the blister. In one seventh of the cases the amelioration took place after the lapse of three or four days. In half of the cases the treatment was continued during from two to six days, in two fifths of the cases the treatment was persevered in for nine days, and in two cases for twenty days. Three of these patients were only relieved, the others recovered entirely. The results certainly are remarkable. The good effects of the remedy in every case, the complete recovery in fifteen sixteenths of all the cases, the short time in which the patients were

under treatment, these are points that may well attract our attention, and which must make the book before us valuable in the eyes even of those who ask only for what is immediately useful and practical.

The application of one of the salts of morphia to the blistered surface has been much in vogue in France in the treatment of the neuralgias, and M. V. acknowledges its utility where the pain is very great. At the same time, as he has found blisters so efficacious to remove the disease, he questions whether the good effect attributed to the morphia by those who have published cases on the subject, ought not rather to be ascribed to the blisters. Cauterization, incision, section of the nerve, are considered by our author as unnecessarily severe remedies. Electricity is not entitled to the confidence reposed in it by M. Magendie. In the cases which have come under the observation of our author, he has found little occasion for the use of internal remedies. He has known of no case where narcotics effected a radical cure. In patients who suffer from periodical attacks, the sulphate of quinine may be administered. In 18 such cases, six patients recovered, and two were relieved. M. Valleix examines with great care 11 cases of trifacial neuralgia, in which the subcarbonate of iron was administered, but the advantage derived from it appears to him to be very problematical; at any rate, the good effect from it takes place only after the lapse of several days treatment, and in some cases it occasions a good deal of disorder of the digestive functions. The pills of Meglin (composed of equal parts of extract of henbane, valerian and oxide of zinc), have been employed chiefly in trifacial neuralgia, but our author, from the small number of cases of treatment by these pills at his disposal, cannot decide positively as to the efficaciousness of this remedy. At the same time he would accord to it a certain value. The oil of turpentine is a favorite remedy of many in sciatica. Our author examines carefully the cases reported by Martinet, where this drug was administered. Four patients who took this medicine, have been observed by M. V., and adding these to the other cases, he has 57 patients, of whom 35 recovered. Yet the histories of these patients are not recorded in such a manner as to authorize us to conclude that five eighths of those who undergo this treatment recover, nor even to appreciate exactly its influence. It can only be said that the remedy deserves further experiment.

At the commencement of this article we expressed our opinion of M. Valleix's book, and we have endeavored to present such an analysis of the contents as would enable the reader to judge of the matter for himself. It must be considered the standard work on the subject of neuralgia, and at the same time, in the fidelity, exactness and minuteness of the researches, in the careful and rigorous analysis of the materials, it may serve as a model for future undertakings.

Bibliographical Notices.

I.—*The Principles and Practice of Modern Surgery.* By Robert Druitt. From the second London Edition. Illustrated with fifty wood Engravings, with Notes and Comments by Joshua B. Flint, M.D., Lecturer on Therapeutic and Operative Surgery in the "Louisville Academy of Medicine," &c. Philadelphia. Lea & Blanchard. 1842. Pp. 534.

We would earnestly call the attention of students, and all engaged in their instruction, to the present work. The arrangement is very good and the views sound. The book is divided into five parts, the first two treating of the principles, and the other three of the practice, of surgery. The author in his preface laments that his limits would not permit a more complete elucidation of the subjects to which his first two parts are devoted; this is a matter of great regret. Every one engaged in the arduous task of teaching, must feel the want of some text book to which he may refer the student for a knowledge of the pathology of surgical disease, such as is furnished by works on the sister art of medicine. The pathology of surgical disease has of late years received immense elucidation, but principally by separate articles scattered through journals and reviews, or delivered from the chairs of professors; so that nowhere can the student avail himself of this flood of light. The pathology of scrofula, connected, as it is so clearly shown by Lugol and others, with tubercle; the diseases of the bones, which are all generally classed by surgeons and surgical writers under the two great and obscure heads of caries and necrosis, but which have lately been elucidated by Nelaton and others, explaining the interesting connection of these two states in many instances with tubercular disease, are a stumbling block in the path of every medical student. Surgical science has too long been considered as consisting only in the dressing of wounds, the healing of fractures, and the amputating of limbs. The surgeon should have as correct a knowledge of the progress of tubercle when it appears in the bones composing the knee joint or the testicle, as the physician has, who watches the same disease in the lungs. We do not make these observations as applicable to the book before us,

or its author. Mr. Druitt touches upon all the points by which modern pathological surgery has been enriched, and shows himself to be fully equal to the successful performance of the task we have hinted at. We only regret he has not felt the importance of undertaking it. The American Editor has conferred a great favor by introducing this work, and, as he says in his preface, a course of lectures or instruction built upon this would fulfil all the requisites for a surgical education. In a foot note by Dr. Flint, we notice the use of the French term "*engorgement*," as if a regular English word. Against such innovations we must protest; the more so, that they are by no means uncommon. Can Johnson or Walker supply nothing equivalent? What idea could this possibly convey to an unfrenchified Anglo-Saxon? The typographical execution is worthy of all praise, being the best cheaply printed medical work we remember to have seen.

II.—*Elements of Surgery.* By Robert Liston, Surgeon to the North London Hospital, &c. From the second London Edition, with copious Notes and Additions by Samuel D. Gross, M.D., Professor of Surgery in the Louisville Medical Institute, with Engravings. Pp. 636. Philadelphia. Barrington & Haswell. 1842.

It is a favorable index of the zeal for the acquirement of medical science at the West, that two such excellent works as this and the one last noticed, have been issued under the care of two lecturers in what we may fairly suppose to be rival schools. Mr. Liston is well known as being ambitious of the reputation of an originator in surgery; he certainly is a most dextrous and judicious operator. The work before us is full of most useful hints, but we cannot but think that he would create for himself a more lasting reputation if he would confine his writing to the elucidation of some particular branch in surgery, and give us the views acquired by a long and extended practice.

Text books are the province rather of the younger class of writers, acquiring their knowledge from books and an observance of others' practice. The student should be first indoctrinated with the grand principles of the art, and he may then examine the views of particu-

lar individuals. We have made these remarks, considering the work as a guide for students, and as an expression of our wish that Mr. Liston may devote his attention to some work of a higher order. The notes of Dr. Gross, already so favorably known as the author of a work on Pathological Anatomy, cannot fail of being read with interest, and we find among them a large amount of information.

III.—*Regimen and Longevity—comprising Materia Alimentaria, National Dietetic Usages, and the Influence of Civilization on Health and the Duration of Life.* By John Bell, M.D. Philadelphia.

When a great excitement is prevailing with regard to any subject, any one who interests himself in it and attempts to investigate it, will elicit more or less that is new, and more or less that is of value. For a long time the public mind has been constantly occupied with the efforts at reform in regimen, more especially in regard to temperance in the use of spirits. While a moral reform has been the great end held out, much valuable information has been gained to science by the indefatigable labors of its zealots, who have hesitated to push their inquiries into no branch of science where any thing was to be gathered for their cause, and with an earnestness which has occasionally outstripped the more patient and cautious step of the scientific inquirer. As they have another object in view, and their aids to science are merely incidental, their acquisitions are to be received with a degree of hesitation, and not without caution.

The above work, most of which is of rather a popular character, and makes little pretension to science, contains within a small compass a vast amount of curious and interesting information with regard to the nature and history of the different articles of food and drink in common use, and with regard to the dietetic habits of different nations and different ages. The author is fully engaged in the temperance interest, but deals fairly with that part of his subject which embraces stimulating drinks. His materials he has well analyzed and thrown together in a simple and clear style, so as to render them most useful as well as agreeable to the general reader.

Such books do much to correct popular prejudice, and to give

people more just views and accurate knowledge of the nature and operation of the numerous articles of food and drink which they are habitually using, either to supply the demands of nature or for the pleasures of sensual indulgence. Where the subject is honestly dealt with, for the sake of giving information, and not for the illustration of some peculiar view or theory of its author, more may be done to reform the habits of society, by a simple statement, like this, of facts, than by attempting to drive people from long-established usages to which they have become attached, and which they think important to their comfort and well-being, by intemperate argument. We would recommend this book as unexceptionable, and well calculated to accomplish the purpose of its author.

IV.—*The History, Pathology and Treatment of Puerperal Fever and Crural Phlebitis.* By Drs. Gordon, Hey, Armstrong and Lee. Republished in Dr. Bell's Medical Library.

We are pleased to see the republication in Dr. Bell's Medical Library, of these valuable monographs upon puerperal fever. As they are all of them essays founded upon an extensive observation, and contain a very large number of recorded cases, they must always be valuable. They are moreover of special value, as containing the history of extensive epidemics of this most appalling disease.

We are too much in the habit, in medicine, as soon as a new and more elaborate treatise upon a subject appears, to drop the old; and we lose in this way very much that is of real and practical importance. This is particularly the case with regard to therapeutics. And every one who has been in the habit of referring to some of the older writers, well knows how many practical hints are to be gathered from them. So rapid has been the progress, of late, of physiology and pathology, that but a few years throws a writer into antiquity, and as all that is established will almost necessarily be incorporated into more recent works, reference to the old is comparatively of less importance. But it is less so with regard to therapeutics and the history of disease, and we are glad to see Dr. Bell republishing some of the older practical writers, together with the new. It is especially interesting where, as in the present instance, works upon the same subject, of different dates, are published together.

V.—*Essays on the Philosophy of Vitality, and on the Operation of Remedial Agents.* By Martyn Paine, A.M. M.D. New York, 1842.

We have received a couple of essays from the ever active pen of Dr. Paine, upon the philosophy of vitality as contradistinguished from chemical and mechanical philosophy, and upon the action of remedial agents. They both exhibit the extensive reading and inquiring mind of the author. We are sorry to see in his preface that he does not appear to be disposed to let the difficulty which he has had with the British and Foreign Quarterly rest. It shows a want of a generous and liberal spirit, continually to harp upon such an affair, when every explanation which could be expected or asked for has been given.

Scientific Intelligence.

EXTRACTS FROM THE REPORTS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

May 9, 1842. *Monstrosity.*—Dr. J. B. S. Jackson reported the dissection of a monstrosity (acephalus, St. Hilaire), brought from Salem by Mr. Peirson. It occurred in the practice of Dr. Johnson. The mother was a mechanic's wife, who had previously had two well-formed children. Nothing remarkable in pregnancy, except her great size; labor took place at the sixth month, and was easy. There were twins, as is usual in such cases, and the monster was born first, which, according to St. Hilaire, almost never happens. It came head first, without the liquor amnii, and without being enveloped in the membranes. With the second child there was a large quantity of liquor amnii; it was quite small, and died in 12 hours. Placenta single; cord of the monstrosity about six inches in length, and inserted near the edge.

Externally the monstrosity resembled very nearly one which was presented to the Society a few years since by Dr. Boylston, described by Dr. J. and figured in the American Journal of Medical Sciences, February, 1838. The weight was 4 pounds 13 ounces; length 11 inches, and width at upper part 6 inches. Excessive œdema constituted the greater bulk, and seems to be constant in these cases, and yet Dr. J. did not find that St. Hilaire had noticed it. There were no cysts in the integuments, as in Dr. B.'s case. Lower extremities sufficiently large; feet turned in, and the toes imperfect. There was some vestige of the right hand, but only a pit in the place of the left. A small, soft, fleshy protuberance, as usual in these cases, represented the head, and around it was some appearance of hair. Immediately below this protuberance was a very remarkable organ, which from its structure Dr. J. regarded as pia mater; it was a regular, circular, flattened soft mass, 16 lines in diameter, and about three lines thick, the base being only about two thirds of an inch; the color dark red, the integuments not being continued over it; surface apparently serous, and being cut into in every direction, the structure seemed uniform, not very unlike the corpus spongiosum in structure, and altogether resembling the tissue found on the base of the skull in what are commonly called acephalous fœtuses, and which Dr. J. supposed to be pia mater. There was nothing beneath it for a base, but the cellular tissue which filled the

thorax, and there was no trace of a brain. Dr. J. had met with no notice of any thing of this kind, except by Béclard (art. Monstruosité, Dict. des Sc. Med.), who found a little red tubercle in front of the chest, attached to a small hollow bone fixed in the sternum; the bone was probably a rudimentary cranial bone, connected only with the sternum by cellular tissue.

On dissection, there was found no trace of heart, lungs, thymus gland, liver, spleen, pancreas or diaphragm. The umbilical vein was pretty fully injected, and as some vessels were filled which were not larger than a common thread, we may infer the absence of valves. St. Hilaire says (Hist. des Anom. vol. ii. p. 518) he knows but one fact as to their existence or absence, and then there was no trace of them. It sent branches to the lower extremities and abdomen, and then a trunk which divided for the head and upper extremities. One quite large vessel entered the spinal canal on the right side in the lumbar region, and as there was no azygos vein, this probably took its place. The injected vessels were shown dissected out and prepared for the Cabinet. There were two umbilical arteries, which Dr. J. failed to inject further than the bladder, the structure showing readily which were arteries and which were veins. On the right side the artery did not go to the aorta, but directly to the lower extremity; superiorly the trunk divided like the vein. The mode of circulation is a very interesting question. Blandin (art. Acéphalie, Dict. de Med.) says that it is effected by the vessels alone, as in the early fœtal condition, and so it seems to be generally thought. He and St. Hilaire both speak of anastomoses or communication between the arteries and veins; in Dr. Boylston's case, Dr. J. thought it clear from inflation of the vessels that there was none, and in the present case it is pretty certain that there was no considerable anastomosis, as the injecting matter did not pass. St. Hilaire says the placenta is generally single in these cases. It was so here, and when it is so, Dr. J. thought the circulation might be carried on by the heart of the other fœtus. As to the course of the circulation, it has been thought that the blood entered by the arteries and returned by the veins, and this would probably be the case if it was impelled by the heart of the other fœtus; the idea may have arisen from the belief that there were valves in the veins, but the existence of these, so far, seems to be disproved. The œdema of the integuments has been explained by retarded circulation, and this we may well imagine, if the blood is to be returned by veins unprovided with valves.

The large intestine was 10 in. in length; small intestine 15 inches, and ending in a cul de sac; two considerable dilatations of the lower part of ileum, from one of which arose a marked diverticulum; anus open. There was a considerable quantity of nearly colorless mucus, with some white, curdy flakes, and in the small intestine some traces of a greenish color. Mr. Stanley last year reported to the Medico-Chirurgical Society, the case of

an acephalous lamb in which the liver was wanting, and yet there was an appearance of bile in the intestine. The renal capsules were small, and united across the spine like a horse-shoe kidney. Left kidney large, 13 by 16 lines, and seemed to be distended with urine; right kidney five by nine lines; ureters well. The bladder was rather small, but contained urine. The testicles, gubernacula, vasa deferentia, prostate, verumontanum and penis sufficiently well. The glans penis was adherent to the prepuce, as Dr. J. believes it almost always is in the fœtus. The ganglia of the sympathetic nerve and the filaments connecting them were quite distinct in the thorax, abdomen and pelvis. In the thorax were two well-maked ganglia, greatly developed; extended from the upper rib to about the eighth rib on the right side, and the sixth on the left, filaments going from them to the intercostal nerves. The spinal marrow was sufficiently developed, as were the intercostal nerves, and the nerves in the lower extremities. The right brachial nerve was rather large, and, what was one of the most remarkable points in the whole anatomy, although there was no trace on the left side either of clavicle or upper extremity, not even in the cartilaginous state, yet there was a very tolerably developed nerve, artery and vein running down in connection, in the situation and direction which the extremity would have taken if it had existed.

Skeleton.—There were 11 ribs on the left side and 12 on the right, all well formed except the three first on the right side, which were fused anteriorly. Dorsal vertebræ corresponded to the ribs, the fourth being incomplete on the left side. Cervical vertebræ about three in number, but not exactly determined; the wings were fused, but the transverse processes were tolerably distinct. Ten vertebræ below the dorsal, of which five may be regarded as lumbar, and five as sacral. Below these last was a hard, thick, blunt cartilage, in place of a coccyx. The sternum was in two lateral portions, widely separated, sufficiently and about equally developed. The right upper extremity was about three in. long; one metacarpal bone, with its phalanges well developed and ossified, and above these two irregular cartilages. There was no clavicle, and, as above stated, no trace of a left upper extremity. Pelvis well formed. Lower extremities sufficiently developed, strongly rotated inwards, and the feet turned in as in varus; head of each femur quite prominent anteriorly, as if partially dislocated, and the synovial membrane seemed universally adherent. On the left foot there were four toes distinct; fourth metatarsal bone cartilaginous and quite slender; six tarsal, the third cuneiform being wanting. On the right foot, on which there were three toes, there were two metatarsal bones well developed, and two very imperfect and cartilaginous; tarsal as on the left side.

May 9, 1842. *Malignant Disease of the Uterus.*—Dr. Bigelow reported the following case, which occurred in a lady 53 or 54 years of age. Dr. B.

saw her first a year ago last June. A year or more previous to this, she had discovered a tumor in her right hypogastrium, extending up, and at length occupying the whole lower part of the abdomen. As felt externally it appeared to be about five or six inches in diameter. It was attended by no pain, but at times by a slight tenderness on pressure. One of its most uncomfortable symptoms was a very fœtid discharge from the vagina. On examination by the vagina, the os uteri was felt closed, hard and corrugated; the neck nearly obliterated. Through the rectum the same tumor was observed more distinctly, extending abruptly back, occupying the whole lower curvature of the spine. It went on increasing for some months, giving much discomfort from the discharge, and bearing-down pains which at times attended it. At one of his examinations, Dr. Bigelow found the os uteri open, and a soft insensible substance protruding. Some portion of it he was able to get away, and found to consist of a cerebriform substance, with some coagulated blood. At subsequent examinations he found the os uteri more dilated, and was able to remove still more. The operation was accompanied by some hemorrhage, but no pain. It appearing to be not a tumor of the uterus, but something contained within it, he determined to try the effect of ergot in expelling it. He accordingly prescribed 15 grains every half hour. He had scarce reached home when he was called back, and on returning found the patient in extreme, unremitting bearing-down pains, like those which usually follow the exhibition of ergot. They were so intense that he was obliged to give laudanum freely to check them. Immediately after, upon examination, he found and removed from the vagina a large mass of cerebriform substance amounting to between one and two pints. Considerable hemorrhage followed, but the patient was much relieved as to the size of the tumor and the other symptoms. Previously the tumor had been so large as to press upon the rectum, and obstruct the passage of its contents, so that even cathartics and enemata could with difficulty be made to operate. This mass was removed in April. She continued to be very much improved in health, though annoyed by the fœtid discharge. In the latter part of August, a more satisfactory examination was made, and the tumor was found to be connected with the inside of the uterus by a large pedicle. Thinking it might now be removed by ligature, Dr. Bigelow carried to the house the apparatus for the purpose. But in pulling down the tumor, while endeavoring to apply the ligature, the whole broke off and left only a stem behind. The hemorrhage was considerable, but not greater than in some of the previous operations. The symptoms almost immediately ceased. The discharge in a great measure ceased, and the tumor nearly disappeared. Her general health greatly improved. She continued well through the early part of the winter, but towards the close the abdomen began again to enlarge, and the discharge returned. The tumor gradually

rose till it reached the umbilicus; sometimes quite tender, but never very painful. From time to time portions were detached and removed. Her health continued to decline. Anorexia, nausea and vomiting occurred, under which she sunk, became delirious, and died in 24 hours. At the autopsy the uterus was found much enlarged, being 7 inches in length, and 5 in width, and almost universally adherent to the neighboring parts, viz. the cœcum, small intestines, rectum and bladder. On cutting it open, the parietes were found from one and a half to two inches thick. The cavity was enlarged, somewhat ragged, dark colored, and contained a black secretion of a fœtid and gangrenous odor. The cavity was continued into the right Fallopian tube, which was so dilated that it would admit the little finger. There was a perforation at the fundus of the uterus, which was only prevented from penetrating the peritoneal cavity by the adhesions of the intestines. The portion of the tumor which remained was composed of the same cerebriform substance which had been removed.

May 9, 1842. *Cancer of the Œsophagus opening into the Right Lung.* —Dr. J. B. S. Jackson reported the following case. Mrs. S., aged 53, a patient of Dr. E. G. Davenport, had had a difficulty of deglutition for at least 8 or 10 years; food often regurgitated, but she suffered no pain. This symptom continued to increase, and for the last 6 or 8 months had been very much worse; during this time she had regurgitated almost always more or less after taking solid food, and this occurred as soon as the food seemed to reach the stomach, but without nausea. If regurgitation did not take place, she had much distress at about the spot where the disease was afterwards found. Her appetite was rather craving, and her bowels regular. In her general appearance she was quite thin, and her skin inclined to be yellow. Some months ago, she had, for about a fortnight, very severe pain through the middle of the lower part of the chest, but never at any other time. Five weeks since she had hemorrhage from the bowels, coming on occasionally for four or five days, but not losing much blood at a time, except once, when the quantity amounted to about one and a half pints. About a week before her death, which occurred on the 5th, she was attacked with acute pulmonary symptoms, viz. cough, dyspnœa, with severe pain in the right side, and fever, but she did not keep her bed till the last two days. She swallowed more easily the last two or three weeks of her life than she had done for some time before.

Autopsy.—The disease in the œsophagus commenced two and a half inches from the cardia, extending upwards anteriorly one and three quarter inches, and posteriorly two and a half inches. The canal was as large at this part as elsewhere, the size not being remarkable either above or below. The diseased surface was ulcerated, and had a whitish, soft, ragged and very unhealthy aspect, most nearly resembling an encephaloid affec-

tion. The cut edge presented no trace of the original structures, the disease being perfectly defined, except on the mucous surface, which was rather less so. Through the centre of the ulcerated surface, on the anterior face of the œsophagus, there was a perforation through into the substance of the right lung, which was gangrenous at this part; this was first made evident by inflating the œsophagus, and afterwards by the passage of a probe. The descending aorta adhered to the diseased portion of the œsophagus, and had upon its external surface near this point, a morbid and apparently malignant deposit; this was interesting as tending to confirm Dr. J.'s opinion as to the nature of the disease in the œsophagus, nothing of the kind being found in any of the other organs. The right pleura was acutely inflamed, and contained about ℥ xxij. of serum, not remarkable either for color or odor. At the posterior inferior part of the lung on this side, there was a patch of gangrene perfectly circumscribed, being about three inches in extent on the surface. On raising the lung, the pleura at this part ruptured, and there escaped a quantity of dark, thick fluid, which had strongly an odor as if from the stomach. The substance of the lung was partly of a dark brown color, soft and shreddy, but without any gangrenous odor, this being perhaps corrected by the secretions from the stomach.

May 23, 1842. *Enlarged Prostate.*—Dr. John C. Warren exhibited a specimen of enlarged prostate, of the same class, he said, with several which he exhibited to the Society some time since, and which were of much practical importance. The present specimen was taken from a gentleman 84 years of age. He had for many years had some slight obstruction in his urine. About four months since he had a more serious difficulty, which, however, was relieved. Finally he had another, when he was attended by Dr. Homans, who at first relieved him, but on the third day failed to introduce the catheter. Dr. Hayward was called in, who succeeded in drawing off his water. The day after, however, he failed, and Dr. Warren saw him. He succeeded in introducing the catheter, but drew off no water. On examination by the rectum, the parts were found very loose, and the pelvis filled with this mass of the prostate gland. He decided to let him alone, concluding that the difficulty arose from an enlargement of the middle lobe of the prostate, closing over the orifice of the urethra like a valve, and preventing the catheter from reaching the urine. On the second day after, the bladder had extended up to two fingers' breadth above the umbilicus. The bladder was punctured above the pubis, and the urine passed off very well. The second night after, the canula, by accident, was pulled out; but it was introduced again. For several days after, the patient did perfectly well, exhibiting no symptoms indicative of any but a favorable termination. Finally, however, owing to his advanced age and circumstances connnected with his previous disease, he gradually

sunk and died, a result which must be considered as entirely unconnected with the puncture of the bladder.

The difficulty in passing the catheter in this case, was not owing to want of room, but to the enlargement of the third lobe of the prostate, occasioning an irregularity in the course of the urethra. It is very rare that any difficulty of this kind arises from enlargement of the lateral lobes. Dr. Warren had made many dissections of the prostate gland, and often from its minuteness was unable to discover the middle lobe, and when so large as to be discovered, it was rarely more than twice the size of a pea.

May 30, 1842. *Catheter broken off in the Bladder, and Calculus formed upon it.*—The specimen was sent to the Society by Dr. Henry Tuck, of Barnstable, Massachusetts, together with the following history of the case.

Dea. A. C., æt. 83 years, Yarmouth, a mariner in early part of life, and farmer during the last 40 years, always enjoyed vigorous and uninterrupted good health until the beginning of 1841, when he began to experience some little difficulty in voiding his urine. He had to make considerable effort at times to relieve himself, especially when fatigued. On the 19th of May, 1841, there was retention of urine for 24 hours, accompanied by great pain and tumefaction in the hypogastric region. A small-sized catheter was introduced into the bladder by Dr. Oliver Ford, of this town, the attending physician, and a large quantity of water drawn off, giving immediate and complete relief. Cathartics, diuretics, tinct. of cantharides, &c. were given. Still the inability to expel voluntarily his urine continued, and the same catheter which had been long in use was passed, occasionally meeting some little obstruction from the prostate gland, for 10 days, when on applying unusual force to introduce the instrument, something was perceived by the operator to give way. On withdrawing the catheter, it was found broken off at the bend, leaving the end in the urethra or bladder. A larger instrument was then passed without difficulty, and with it the piece of the broken one was distinctly felt in the bladder. Subsequent to this accident he continued his medicines, had the catheter passed twice a day for a month, and then the bladder recovered its tone, and he was able to void his urine by his own efforts. He gradually regained his health and strength, and was able to do light work on his farm until the 9th of December following, when he was seized with rigors, heat, nausea, vomiting, pain in bowels, accompanied by constipation and partial retention of urine. This ceased, however, after the application of hot fomentations. During the interval between these two attacks he was obliged to micturate more frequently than usual, and his water deposited, on remaining in the vessel, a thick, white, slimy sediment, which was adherent, and would rope when poured out.

On the return of his illness the second and last time, his strength was

completely prostrated—there was considerable irritative fever. His water was passed involuntarily in bed. He had one or two dejections daily without cathartics. Morphine was administered to allay the pain. His mind continued unimpaired until the 7th of January, 1842, when he died.

Post-mortem.—On opening the abdomen, no lymph or adhesions were observed. There was a small blue spot on the surface of the bladder, on the left side, about the size of a half dime, through which the catheter perforated on taking hold of the bladder to feel for the broken instrument, and projected three fourths of an inch. On laying open the bladder, the coats were found thickened. The mucous membrane was sacculated, rough, and altogether quite morbid in its appearance. In the posterior part was a calculus formed round the middle of the catheter, both together weighing two and a half drachms. The piece of instrument, to which the calculus adhered firmly, was three and a half inches in length. The calculus was of a reddish-brown color, extremely porous and friable. The prostate gland was about three times its natural size, and indurated.

JULY 11, 1842. *Shot in the Appendix Cæci.*—Dr. C. C. Holmes, of Dorchester, sent to the Society an appendix cæci, containing 122 shot, of about the size of robin shot, taken from a gentleman aged 88 years, who recently died of hydrothorax, and who had suffered for a long time from disease of the prostate gland. He never had any symptoms which indicated disease of this organ, and the disease of which he died was entirely disconnected with it. There was nothing remarkable in the appearance of the appendix itself, except its unusual length. There were no adhesions around it. The gentleman had been notorious for his fondness for game, and the probability is that he swallowed the shot in birds.

JULY 25, 1842. *Enormous Aneurism of the Aorta.*—Dr. J. Mason Warren was first called to the patient, who was a gentleman 43 years old, two years since, afflicted with severe neuralgic pains in the left hypochondriac region, and extending in different directions to the bladder, kidneys, and also downwards to the integuments of the left thigh, where the pain was of an almost insupportable character. At this time no tumor could be discovered in the abdomen. The suffering, in spite of all remedies, became so severe, that the patient, in order to get any relief, was obliged to place himself on his hands and knees, and thus situated, with the head downwards, he was able to get some rest in the course of the 24 hours. This position was maintained for the greater portion of the time during six weeks. At the end of that period the patient was seized with a violent hemorrhage from the nose, which was only checked at the end of 24 hours by plugging the nostrils. Subsequent to the hemorrhage the pains became somewhat relieved, and he was able to resume the recumbent position. An

examination of the abdomen being now possible, a pulsating tumor could be discovered in the left hypochondriac region—having on its front part what appeared to be the kidney.

From that period to the present, the tumor has gradually increased in size, extending in either direction—upwards towards the thorax, and downwards towards the thigh. The pulsations were commonly sufficiently great to shake the whole body, and were much increased before an occurrence of hemorrhage from the nose, which for the last two years has occurred at pretty regular intervals of two or three months, and was always checked with great difficulty—but was attended with relief to the system. The digestive functions during this period have been pretty regularly performed. His food, however, he was obliged to take while in the recumbent posture, as otherwise the tumor seemed to press on the stomach and destroy the appetite. As the tumor encroached on the thigh, the limb gradually became more and more flexed, until it was drawn up so as to form a right angle with the body.

About 14 days since he was again seized with a return of hemorrhage from the nose, which though checked from time to time, again returned so as to gradually exhaust the patient. The nostrils were plugged both before and behind; the blood, however, was in such a fluid state that it still continued to find an exit through the puncta lachrymalia.

The patient retained his faculties perfectly to the last, and through the whole of this long and trying period bore his sufferings with the most heroic fortitude.

The treatment has consisted principally in small bleedings, when the system from time to time became plethoric, and intimations were given of a recurrence of hemorrhage. By these means the epistaxis was occasionally warded off. The patient himself was always well aware when this became necessary.

The following appearances were presented at the post-mortem examination. On turning back the abdominal parietes, all the organs of the left side were found to be raised up on the surface of an enormous tumor. The left kidney occupied the epigastric region, and was the most prominent organ.

The tumor had pushed up the diaphragm, so as to be, at its apex, on a level with the fourth or fifth rib—below it had passed down underneath the crural arch and on the surface of the psoas and iliac muscles, and descended nearly to the middle of the thigh. On removal from its situation, it was found to commence in the abdominal aorta, opposite to the origin of the cœliac. The superior parietes of the artery appeared intact—below, at the point of origin of the tumor, they were deficient for the space of two inches.

The parietes of the tumor were formed below by the ribs, the muscles and

integuments of the posterior part of the abdomen ; above, the usual appearance presented by an aneurismal sac. The bodies of the lower dorsal and three superior lumbar vertebræ were nearly destroyed—also a portion of the body and crista of the os ilii of that side. One large coagulum appeared in the sac. The blood was in a very watery state, so that nearly all which remained in the body seemed to escape at the first incisions. The tumor was 19 inches in length, and 18 in circumference—being, we believe, one of the largest on record.

August 8, 1842. *Aneurism at the Arch of the Aorta, opening through the Sternum.*—Dr. M. S. Perry reported the following case.

A. M., aged 44, laborer, enjoyed good health in early life. Until within ten years was very intemperate. Since that time, has taken no ardent spirit. Seven years since had an attack of dyspnœa, with some cough, which lasted several days. Since then has had frequent attacks, which came on after exposure to cold. He has lost about two pounds of flesh every year for the last five or six years. Now complains of soreness in cardiac region, with pains like "rheumatism," shooting to left shoulder and down left arm. Pain is sometimes so severe as to prevent free motion of arm—no numbness. Has some hoarseness, which he says is not constant —dyspnœa is aggravated by exercise—not increased by lying down. He cannot lie on left side—has no paroxysms of dyspnœa at night—had formerly palpitation of heart, but none now—pulse 92, of moderate fulness and force. No discoloration of lips or nails—skin natural, and digestive organs in good condition. Respiration and percussion normal throughout whole of front, except over a tumor, bounded above by clavicle and upper part of sternum, on the left by a line drawn one inch from sternal end of clavicle, below by lower edge of cartilage of third rib, and on the right by a line drawn through the middle of sternum. This tumor is nearly circular, and raised about an inch above surrounding parts. Over the tumor the respiration is bronchial, and a flat sound is obtained by percussion. The pulsation in tumor is distinct, and the two sounds of heart distinctly heard—no bellows sound. Sounds of heart healthy, but feeble—the second sound more distinctly heard as you ascend—both sounds louder over tumor than over the heart. Purring tremor quite distinct over tumor. Respiration more distinct throughout whole of right back than left. Sonorous rale heard on full inspiration over both backs.

Feb. 24, 1840. Since last examination has had several attacks of bronchitis, which subsided in a few days. Is now pretty well. Tumor has decidedly enlarged—has now a prominent apex. A week since, several hours after using considerable exercise, had soreness in tumor and about arm, was unable to sleep from pain, obliged to sit up in chair—next day was entirely relieved, and did not observe any increase in tumor till yes-

terday. Pulsation of tumor same—no bellows sound—no purring sensation—pulsations double. Right back, from an inch below lower angle of scapula to lumbar region, more prominent than left, respiration over this part louder and rougher than over other parts of same back.

May 15, 1840. Tumor now about the size of a goose egg. Pulsations of tumor strong—double, although first sound not as distinct as at last examination. Respiration heard over most of left breast, accompanied by a sort of tremor. Sounds of heart natural, but feeble.

Dec. 4, 1840. About three weeks since hit tumor against a box, and for three or four days after had dyspnœa and pain—the former increased on lying down. Since then pretty comfortable, but thinks the difficulty of breathing greater than before the accident. Tumor now measures nine and a half inches in circumference at base, and nearly one and a half in height above level of sternum. Has had a copper case made to wear over tumor to prevent external injury, and likes it much.

April 12, 1841. Tumor now measures one and three fourth inches in height, four and three fourth inches in diameter, nine and three fourth inches in circumference at base. Health never better—performs his work without much inconvenience. Physical signs same as at last examination.

Aug. 9. Tumor has increased in size. There is absorption of the upper part of sternum and a portion of the clavicle—also of sternal end of 2d, 3d and 4th ribs. Pulsation of upper part of tumor stronger than at the part most prominent. The surface is becoming irregular—no bellows sound—second sound longer than the first—sounds of heart more obscure than at last examination. The circumference at base, twelve inches. From inferior part of tumor to apex, two and three fourth inches—from superior part to apex, three and a quarter inches. Pulse regular in both wrists and alike in impulse.

Dec. 2, 1841. The whole tumor is irregular, and has four prominent points; one of these, to the right and above the central point, is brownish in color to the extent of an inch. Size about the same as at last examination. Patient complains of tightness and a sense of suffocation when lying down—has some cough and slight huskiness of voice—no expectoration. From this time till within three weeks of his death, which took place July 29, 1842, patient's health continued good, with the exception of several slight attacks of bronchitis. The tumor continued to increase slowly in size. Three weeks before his death there was slight bleeding from a rupture of some of the capillary vessels upon the apex of the tumor. In three days after Dr. P. discovered a small gangrenous spot where the bleeding took place. This gradually extended so as to include the whole of the top of the tumor, and for several days before his death the parts had sloughed so as to expose to a small extent the fibrine which lined the sac. He had an attack of hemorrhage a week previous to his death, and one two days before, both of

which he stopped by pressure. He died during the third attack. The post-mortem was made by Drs. J. B. S. Jackson and H. I. Bowditch.

On dissection, the skin over the tumor was found very thin, soft, blackish and detached from the fibrine beneath, which to some extent was fairly exposed. The ascending aorta and arch were considerably dilated, ossified and otherwise diseased in structure. From this last, just in front of the great vessels, arose the aneurism; orifice quite distinct, having regular, smooth, and rounded edges, and measuring one and a quarter inches in diameter; cavity comparatively large, and filled mostly with dark-colored fibrine. The upper bone of the sternum was destroyed, except a narrow portion on the right side, the left clavicle being quite loose. Just beyond the arch of the aorta, was a second aneurism about half as large as the first, and filled mostly with fibrine; orifice not distinct as in the first; the sac was connected somewhat with the upper part of the left lung, but more extensively and very closely with the spine on the same side, the bodies of three of the vertebræ being deeply absorbed. Thoracic aorta otherwise healthy, as were the vessels at the arch and the organs of the thorax generally. The great vein, however, which crosses from the left side to join the upper cava, was nearly obliterated. Heart flaccid and rather small, the left ventricle being only four lines in thickness; structure healthy, and so also the aortal valves.

August 22, 1842. *Excision of the Tonsils.*—Dr. J. Mason Warren read the following paper.

In 1839 I presented to this Society some remarks on enlargement of the tonsils, attended by a certain deformity of the chest, and on the operation which had been practised for their relief. Since that time I have had occasion to perform this operation on between one and two hundred patients. The results have led me to the same conclusion as stated at that time. I regret that I have not kept a sufficiently accurate account of all these cases to be able to lay them before the Society. Within the last two months I have had occasion to perform this operation of excision of the tonsils on 13 patients. Eleven of these were children. In seven of the children the sternum was excavated or otherwise deformed. Six of the 13 patients were deaf. One immediately recovered his hearing after the operation; in the others some days elapsed before the improvement took place. In all of them the breathing was more or less affected, and relief almost immediately followed the operation.

In a late number of the Medical Examiner, I observed some remarks made by a distinguished surgeon in Philadelphia, in regard to a certain change of voice following on this operation, and suggested as the probable cause the injury done to the lateral half arches of the palate by the operation, from adhesions existing between them and the enlarged tonsils. I have taken

some pains, since those remarks came under my observation, to examine a number of patients on whom I had previously operated, and in none of them could I observe, or had they observed themselves, the change of voice alluded to. In none of the 13 cases now given did this alteration exist.

There are few of the operations in surgery in which the relief is so immediate and so permanent, as in this simple one of excision of the tonsils, and the results, so far as I have observed, are uniformly favorable.

The instrument which I have most commonly used has been the guillotine instrument, with a convex instead of a spear-pointed blade. The broad shoulder of the instrument, which has been sometimes objected to, serves in the place of a spatula to hold the tongue well down, and the edges of the ring which embrace the tonsil, if not too narrow, press back the columna of the palate, and protect them from being wounded.

Extracts from Foreign and American Journals.

ANATOMY AND PHYSIOLOGY.

Case of Irideremia, or Absence of Iris; with Observations. By John Frederick France.

Case.—Mary Hampton, aged 23, an out-patient at Guy's Hospital. She is not aware of any other member of her family having been afflicted with complaint of the eyes; but has often heard from her parents (both now dead) and friends, that she was born with a defect of those organs. She herself has no recollection of ever having enjoyed more perfect powers of vision than at present; nor can she call to mind having suffered from any inflammation in the eyes more important, or of longer duration than that which has accompanied other and more general catarrhal symptoms. During her infancy, and again six or seven years ago, her mother took her to the Moorfields' Infirmatory; where the use of glasses was suggested—advice which she has not followed. The only occupation she has been fitted to pursue is that of household work.

Present State.—She is free, and ever has been, from any pain in the eyes, except that produced by exposure to strong light, which she cannot bear. Sunshine, in particular, is disagreeable to her, and produces profuse lachrymation: she therefore shuns it, preferring the dusk, when she can see better, and in comparative comfort. Objects are only distinctly seen when within the distance of a foot or two.

To the observer she presents the following appearances:—the eyelids are habitually more than half closed, and, from the permanence of this state producing an approach to entropion, and the shortness of the ciliæ, she bears, at first sight, the aspect of an individual who has been deprived altogether of eyelashes by disease. Such, however, is not the case; but, with the exception of slight catarrhal ophthalmia, the lids are healthy.

The globe of each eye is affected with an almost unceasing oscillatory movement in a horizontal direction: a symptom which, added to the spasmodic contraction of the orbicularis muscle, immediately excited on attempting to expose the eye to a good light, renders accurate observation of the condition of the deeper structures a matter of very considerable difficulty. The power of directing the eye towards an object, more particularly upwards or downwards, is much impaired.

Each cornea is partially clouded; the haze of the left occupying perhaps one eighth of its superfices, and very slight: that of the right being more dense, nearly traversing the cornea horizontally, and rendering obscure about one sixth of its surface. These are, of course, the relics of former inflammation.

The sclerotic coats are moderately healthy—perhaps rather more blueish than natural: their degree of tension is that of health. On inspecting the right eye very carefully, and looking above or beside the corneal nebula, there is observed a central opacity of the interior capsule of the crystal-

line, about the size of a large pin's-head; and a similar spot is also to be seen on the posterior capsule; the lens remaining perfectly transparent. Thus a very satisfactory illustration is afforded of the size of the space between the cornea and capsule, and, again, between the front and back walls of the cavity within which the lens is contained. In the left eye, the centre of the anterior capsule, or more superficial part of the lens, is opaque; while the posterior, appearing as if corrugated, is opaque also in the centre, to about one third of its extent; and shoots forwards, as it were, flakes of opacity into the lens on the nasal side.

With these exceptions, the entire space viewed through either cornea is of uniform brownish-black hue. The closest examination discloses no vestige of iris.

Owing to the obstacles opposed in this case to a scrutinizing inspection of the eye, which were before referred to—viz. the continued oscillation and unsteadiness of the globe, the intolerance of light, spasmodic contractions of the orbicularis, and, finally, the clouds obscuring in parts the surface of the cornea—I might still entertain some misgiving as to the real existence of this very rare malformation, and be inclined to ascribe to an unusual darkness of color in the iris, and extreme dilation of pupil or mydriasis, the non-appearance of the membrane in question. The result of the following mode of examination, however, superadded to the more direct ocular evidence, amounts to demonstration. If the observer, having gained sight of the posterior capsular cataract, and while watching it closely, gradually move his position, so as to look more and more obliquely thereupon through the cornea, he will find his view of the cataract not intercepted, until taken in so oblique a direction that the anterior edge of the sclerotic begins to intervene. Now, did ever so narrow a rudiment of iris exist, it would (leaving the ciliary ligament opposite to the junction of cornea and sclerotic to divide perpendicularly the aqueous chambers) hide the posterior capsule, viewed in the way described, before the point at which it, in this case, actually disappears.—*Medico-Chirurgical Review, July*, 1842.

Dentition of Children at the Breast. By Professor Trousseau.—Suspecting that the generally received ideas on the dentition of children were not correct, M. Trousseau, from statistical observations not very numerous, has come to conclusions slightly different from the opinions generally believed.

Period at which the first tooth appears. This has been determined in 25 children; 13 boys, and 12 girls. It appeared as follows:

In 2 boys at 3 months.	In 1 girl at 3 months.
2 at 4	2 at 3
2 at 5	1 at 4
2 at 6	1 at 5
2 at 10	3 at 6
2 at 11	1 at 7
2 at 14	3 at 9
	1 at 14
Extremes, 3 months, 14 months.	2 months, 14 months.
Average, 7 months.	6 months.

The average time, then, at which the first tooth appears is, from these results, six months and a half; while the general belief at present is, that

at eight months it makes its appearance. The common opinion that little girls are more precocious than boys, is also corroborated, as we find the difference of a month between the appearance of the first tooth in boys and in girls.

The first tooth is in general one of the middle inferior incisors. Of twenty-eight children this was the case in twenty-five. In two, a middle superior incisor appeared first; and in a little girl, the first molars preceded all the others.

Period at which the second tooth appears. The twenty-five children in whom a middle inferior incisor first showed, had for their second tooth, the other middle inferior incisor. The common opinion is, that this second tooth appears almost at the same time as the first; and it is quite correct. In twenty-five children, the time that elapsed between the first and second tooth, was, 1 day in 4 children; 2 days in 2 children; 3 days in 1 child; 8 days in three children; 15 days in 7 children; 30 days in 1 child; 90 days in 1 child. In six the time could not be determined by the mother.

The middle superior incisors appear next after the two middle inferior. In eighteen children, fifteen had these teeth after the middle inferior incisors. The time that elapses generally between the cutting of the inferior and the superior incisors, is more variable than is generally supposed. In thirteen children in whom M. Trousseau was able to verify this, there was a lapse of 8 days in 2 children; 1 month in 3 children; 2 months in 3 children; 3 months in 1 child; 4 months in 1 child; 5 months in 2 children; 10 months in one child.

In general, then, there is a considerable interval between the appearance of the second first and the second second teeth. It may be established as a general rule, almost without exception, that after the appearance of these four teeth, the two lateral superior incisors next cut the gum, and then the two inferior ones, so that the child has only two teeth in the lower jaw, while it has four in the upper. It is curious, M. Trousseau says, that this fact, so well known to mothers who have brought up several children, should be unknown to those who have written specially on the subject. Whilst a considerable period takes place between the first appearance of the inferior and superior incisors, the four superior incisors follow each other at a short interval. After these six teeth have come through, some time elapses before the next, which are generally believed to be the two lateral inferior incisors, appear. M. Trousseau, however, says, that as a general rule, one or several molars, and sometimes even the canine, are protruded before them. After the cutting of the four molars, and the two inferior lateral incisors, another considerable interval of time elapses, when the four canine successively appear; and then after another period, at the age of from twenty-four to thirty months, rarely sooner, the second set of molars come out.

In the second part of his work, M. Trousseau treats of the diseases incidental to teething, and especially of the diarrhœa accompanying it, and combats the opinion so prevalent, that nothing ought to be done for it. He shows that it is not only useless, but decidedly injurious to the little patients—that it weakens them, and lays the foundation of marasmus, which if not checked in time, soon goes on to a fatal termination.—*Lond. and Edin. Monthly Journ. Med. Sci.*, May, 1842, from *Gaz. Méd. de Paris*, 4th Feb. 1842.

Physiological Results of Extirpation of the Salivary Glands. By Dr. Budge.—Litmus paper, introduced into the mouths of a considerable number of rabbits, was changed into a deep blue color. The same was the result in the case of dogs and cats without any exception. A cat was deprived of food during two days and a half, and a dog during one day; yet in both cases was the above change in the litmus paper not the less marked. A rabbit and a cat had both their nervi vagi cut across: in both animals, till the moment of death, an alkaline reaction of the saliva was manifested. The cat lived till the fourth day. A dog had both its parotid, both its submaxillary, and both its sublingual glands extirpated; yet, to the astonishment of the author, the reaction was still alkaline in as great a degree as before. The glands themselves, after being washed, so far as to free them from all traces of blood, were cut into and tested: the reaction was alkaline, but not in so great a degree as when the paper was introduced into the mouth. The animal quite recovered, and during the four weeks it was permitted to survive, litmus paper introduced into the mouth, was always tinged blue. It was killed, and on examination a small quantity of food was found in its stomach. One bit of litmus paper laid on the stomach remained unaltered in color; another piece became slightly reddened. The acid reaction seemed less than usual; but the author adds, that in dogs whose glands had not been extirpated he has often noticed very faint traces of acid. The results in a cat, which survived the operation four weeks without the smallest apparent injury, were nearly identical.

From these experiments the author infers that the spleen is not the only gland which can be extirpated without the destruction of life. Yet no one can suppose that the salivary glands are useless. We must therefore conjecture that certain glands supplement each other; and that in the case of the removal of the salivary glands the pancreas, perhaps, eliminates the fluid which these glands usually do. It is known for certain that even the urinary secretion cannot remain in the blood when the kidneys are extirpated, and that the stomach endeavors in this case to eliminate, and *does* eliminate, genuine urine, though not, of course, in quantity sufficient for the purposes of life.

Although, according to experiments and observations on the human subject, the saliva, after eating, manifests an alkaline reaction, yet section of the vagus in brutes produces no change. The sympathy between parts supplied by the vagus and those supplied by the trigemini cannot here be taken into consideration. It is possible that this sympathy between the stomach and the salivary glands may take place through the spinal branches received by the parotid.—*Medicinische Zeitung*, No. xviii. *Mai* 4, 1842.

Normal Dimensions of the Heart in the Adult.—The author gives an account of the plan of measurement which he adopted, which seems to have been one calculated to ensure accuracy: of upwards of 100 hearts, of which the dimensions were taken, care was had to exclude every one which exhibited any trace of organic change. We shall only give the *mean* measurements.

Of 15 male hearts, the mean *circumference* was 9 inches 27-48ths; of 17 female hearts, 8 inches 16-48ths.

The mean *length* of the male heart was 4 inches 16-48ths; of the female, 4 inches 36-48ths.

The mean *thickness* of the *left* ventricle in the male was 27-48ths of an

inch; in the female, 23-48ths; of the *right* ventricle, in the male, 8-48ths of an inch; in the female, 6-48ths.

The septum ventriculorum has, in the male, a mean thickness of 22-48ths of an inch; in the female, 14-48ths.

The aortic orifice in the male has a mean circumference of 2 inches 31-48ths; in the female, 2 inches 22-48ths.

In the male, the pulmonary artery at its origin has a mean circumference of 2 inches 34-48ths; the right auriculo-ventricular orifice, 4 inches 35-48ths; the left auriculo-ventricular orifice, 3 inches 45-48ths; and the corresponding parts in the female are relatively less.

The following are the author's deductions: 1st. The male is larger than the female heart. 2d. The length of the healthy heart to its circumference is rather less than 1 to 2. 3d. The thickness of the right ventricular parietes to the left is as 1 to 3, nearly. 4th. The pulmonary artery is slightly wider than the aorta. 5th. The right auriculo-ventricular orifice is considerably larger than the left.—Dr. RANKING, *Medical Gazette*, No. xxiv. 1842.

Can the Male influence the Duration of the Fœtus in Utero?—The Earl of Spencer has observed that cows in calf to a particular bull belonging to his lordship carry their calves about four days longer than cows in calf to any other bull. The average period of gestation of the cow his lordship finds to be 248 to 285 days; but cows in calf to the bull referred to do not bring forth till 290½ days. His lordship has therefore proposed the query, whether the bull can exert any influence on the duration of the calf in the uterus of its mother, and whether there be any work extant in which this question is handled?—Dr. HALL, *Med. Gaz.*, No. xxiii. *May* 6, 1842.

PATHOLOGY, PRACTICAL MEDICINE AND THERAPEUTICS.

Statistical Researches into the Etiology of Pulmonary Phthisis. By Dr. BRIQUET, of the Hopital Cochin.—This paper is founded on an investigation into various particulars connected with the history of 109 phthisical patients in whom the disease was far advanced, and likewise on data furnished by all the deaths from phthisis in the hospital between January 1st, 1838, and January 1st, 1841, being 182 in number.

The conclusions (for which only we have space) at which M. Briquet arrives are:

1. That during the past three years, one tenth more of men than of women have been received into the Hopital Cochin affected with phthisis: a result directly contrary to those obtained by MM. Lombard and Louis.

2. In at least a third of the patients phthisis was distinctly hereditary, and predisposition to the disease seemed more frequently to come from the father than the mother.

3. No immunity from the disease is afforded by the circumstance of being born of parents who are natives of the country, or by being brought up in the country.

4. Tall stature, a slender frame, an ill-formed chest, and convexity from the root to the point of the nails, are the only external characteristics of phthisical diathesis.

5. It occurred very seldom that the circumference of the upper part of the chest was less than that of the lower part: a fact directly contrary to the assertion of M. Hertz.

6. Those callings in the pursuit of which there is discomfort, want of exercise and of pure air, present a greater number of phthisical persons than is to be found among those who pursue different occupations.

7. A third of these patients were more subject to catarrh than other persons, and were more sensible of cold.

8. In three fifths of the patients, phthisis developed itself between twenty and thirty years of age, but more than two thirds of those whose parents had suffered from consumption became phthisical before their thirtieth year; while, of those whose parents had not been healthy, half did not show symptoms of phthisis till after thirty.

9. In four fifths of the patients there existed predisposition to phthisis, and in three fifths this predisposition was acquired.

10. Cold is the most powerful cause of the acquired predisposition; next to which are misery, privation and distress of mind.

11. Phthisis is most frequent in cold seasons, and when there are many variations in the atmosphere.

12. Four tenths of the patients had not been exposed to the influence of any occasional cause of phthisis, but in most there existed a strong predisposition to the disease.

13. Five tenths had been exposed to and suffered greatly from some exciting cause, and this cause was in almost every instance cold and damp. —*Revue Médicale, Feb.* 1842.

On the employment of the Sulphate of Alum in the treatment of some forms of Angina Pharyngea. By M. Celestin Perrin.—It is by no means unusual for catarrhal affections, especially in damp situations, to leave behind them a sort of habitual chronic catarrh of the fauces. In these cases the mucous membrane is much injected, of a deep red, sometimes thickened, and the mucous follicles are very apparent and much developed. An adhesive mucus covers the parts and provokes a frequent and troublesome cough to effect its expectoration. The employment of alum gargles, of various strength, in these affections, has for some years been often resorted to. M. Petrequin, of the Hotel Dieu, has practised the insufflation of four parts of alum to one of sugar with great success; and M. Perrin has used the same means with similar results.

Encouraged by the good effects of the application in chronic cases, M. Perrin has had recourse to it in those which are acute. He mixes equal parts of alum and sugar, and blows them through a quill against the back of the pharynx. It is always necessary that the point of the quill should be even with the uvula, since otherwise the sudden descent of the velum palati may close the passage and scatter the powder on the back of the tongue, where it excites nausea and efforts at vomiting. Even in cases where the febrile symptoms run very high, the difficulty of swallowing is extreme, and the patients have on former occasions been depleted and subjected to very severe treatment. this application a few times repeated has seemed to effect a cure, and a great amelioration of the symptoms has followed its employment even once. Two cases are related in illustration, and the writer concludes by asking whether equally favorable results might be expected from this practice in cases occurring in dry and hot

countries, or whether there is something peculiar in the anginas of damp and rainy climates, as Lyons, which renders them peculiarly amenable to this mode of treatment.—*Bulletin Général de Thérapeutique. Mars*, 1842.

On the Delirium following Acute Meningitis, and its Treatment by cold Affusion. By M. Recamier.—In the Hotel Dieu, under the care of M. Recamier, was a man who was the subject of chronic delirium, unaccompanied by any sign of disease of the brain or its membranes. He had already had two attacks of a similar kind, the second more severe than the first, and the third than the second, but they all yielded to depletion, which in the last instance required to be repeated several times. In the same ward was another patient in whom delirium remained after symptoms of inflammation of the brain, and depended, in M. Recamier's opinion, on some modification in innervation produced by the disease, not on any continuance of the actual malady.

Two other similar cases are mentioned by him in which chronic delirium was removed by the employment of cold affusion. One was the case of a young lady in whom delirium existed unaccompanied by the signs of meningitis, but with irregular automatic movements of the hands, in which she crammed any thing that was given her into her mouth. M. Recamier began the treatment with cold affusion of water at 68 degrees Farenheit during five minutes, and gradually reduced the temperature to 50 degrees, and prolonged the affusion for ten minutes. It was not, however, until affusion was practised at 39 degrees that any effect was produced, but then the patient was seized with a tetanic spasm and lost all consciousness. She was at once placed in bed, warmth was applied to the surface, and she speedily recovered, and asked for her mother, for whom she had before shown a marked aversion. Pen and paper being given her, she now wrote a perfectly sane letter, requesting her mother to visit her. The affusions were still continued at a temperature of about 64 degrees for some days, and the patient recovered uninterruptedly.

In this case, which had followed an attack of meningitis, warm baths had been employed for a considerable time, without leading to any results. In the second case the same treatment was employed with success in a man who had become insane from spirit-drinking. In three different attacks the remedy had the effect of restoring his reason, but his intemperate habits were so deeply rooted that he eventually brought on a condition of permanent delirium, for which he was received into the Bicêtre.—*Gaz. des Hopitaux. Mars* 3, 1842.

Summary of the Mortality Tables in London for the Year 1841.—The following brief summary is contained in the number of our northern contemporary,* for May, 1842. It is abstracted, we presume, from the Registrar General's Report, which we have already directed attention to.

The total number of deaths was 45,284. Of these 22,995 were males, 22,288 females. 20,780 were under 15, and 24,433 above 15 years of age.

In the tables, the area is divided into five districts, and the rate of mortality is found to differ in each, according to the local situation, and the circumstances and occupations of the inhabitants. Thus, in the western district, embracing Westminster, St. James, Kensington, &c., it is 2.202

* London and Edinburg Monthly Journal of Medical Science.

per cent.; in the northern, embracing Mary-le-bone, St. Pancras, Islington, and Hackney, it is 2.267; in the central, or what is properly called the city, it is 2.505; in the southern, embracing Southwark, Greenwich, Camberwell, &c., it is 2.539; and in the eastern, embracing Shoreditch, Whitechapel, Bethnal Green, &c., it is 2.558, showing a difference of .356 per cent. between the western, which is the wealthiest and best aired district, and the eastern, which includes the poorest and most low-lying parts of London, along the banks of the Thames. The average mortality over the whole, is 2.429 per cent. The central district is entirely urban, the eastern nearly so, while all the others comprehend a considerable extent of surrounding country.

The tables exhibit the number of deaths which occurred in each week, and their causes. The diseases are classed as follows: I. Epidemic, endemic, and contagious. II. Spasmodic, embracing, 1st, diseases of the nervous system; 2d, of the respiratory organs; 3d, of the organs of circulation; 4th, of the digestive organs; 5th, of the urinary organs; 6th, of the organs of generation; 7th, of the organs of locomotion; 8th, of the integumentary system; 9th, of uncertain seat. III. Deaths from old age; and IV. Deaths by violence.

The mortality from the exanthemata and typhus, amounted to 3,840, of which 1053 were from small-pox, and 1,151 from typhus—certainly a very small number, considering the extent and circumstances of the population. The deaths from consumption were 7,326, or about 16.17 per cent. of the whole, being nearly the same proportion as in the rest of the kingdom. The mortality from the other principal diseases, was as follows: Hooping-cough, 2,278; hydrocephalus, 1,739; convulsions, 2,778; pneumonia, 3,668; asthma, 1,351; dropsy, 1,720; debility, 1,114; old age, 3,373. The violent deaths amounted to 1,148. The mortality in the first quarter, amounting to 13,713, far exceeded that in the others, which differed little in this respect, being 10,404, 10,406, 10,761, respectively. The month in which the greatest number of deaths occurred, was January—4,687; that in which the least, July—3,050, showing a difference of 50 per cent. The higher mortality of the first quarter holds good with respect to all the great classes of disease, whether epidemic, endemic, or spasmodic, with the single exception of diseases of the digestive organs, from which the greatest number of deaths occurred in the autumnal quarter, owing to the prevalence of gastritis and enteritis at that season. In the case of individual diseases, there are some exceptions to this remark. Thus, while the mortality from pneumonia, bronchitis, and asthma, was far higher during the first quarter, that from consumption was highest during the second and third quarters, and from croup in the fourth. The number of sudden deaths, from unknown causes, was greatest in the first quarter, and the deaths in child-birth were twice as numerous in the first, as in the second and third quarters.

Of the four years, during which the deaths have been registered, viz. from 1838 to 1842, the most fatal, 1838, was also the coldest; while in 1841, the least fatal, the temperature was higher and more rain fell than in any of the other three.—*Med. Chirurg. Review. July*, 1842.

Upon "Bruit de Soufflet" and "Fremissement," as means of Diagnosis in Diseases of the Heart.—Recent authors have contributed much to cardiac pathology, and, if we credit all they assert in their books and essays,

have left but a scanty harvest to be reaped by their successors. My own experience, however, has been very unsatisfactory, inasmuch as it has not unfrequently appeared at variance with the rules laid down by authors, and I have consequently been led to believe that the means of distinguishing diseases of the heart from each other, have not yet been brought to the alleged degree of perfection, and indeed many reasons induce me to conclude that such perfection is unattainable, for we can localize diseases of the heart only by the following means: first, by the sort of derangement each induces in the circulation and its associated functions; secondly, by the change such disease produces in the motions of the heart as felt by the patient, or as perceived by the eye or hand of the observer; and thirdly, by the morbid sounds developed during the heart's action.

The numerous observations and dissections I have made, have convinced me, that the functional derangements produced by disease of any particular part of the heart, are seldom sufficiently characteristic to enable us to make out whether the disease be situated in the auriculo-ventricular or semilunar valves; nay, it has frequently occurred to me, that all the symptoms supposed to be indicative of disease of the right side of the heart, have been occasioned by the diseases of the left side, and *vice versa*. So far, indeed, from symptoms being always precise enough to point out the seat of the disease, they are often insufficient to indicate its very existence, an assertion proved by numerous specimens exhibited at the Pathological Society.

The chief means of distinguishing which of the valves of the heart is diseased, is derived from the supposed direction of the sound. This is by far the most useful diagnostic mark we possess, and by it we may often, but not always, distinguish disease of the right from disease of the left side of the heart, and we may even occasionally, though not often, distinguish diseases of the auriculo-ventricular from those of the semilunar valves. Another means of diagnosis much relied on, is taken from the morbid sound accompanying, and therefore being a perversion of the first or of the second sound of the heart, but as at each motion of the heart, valves are opened and valves are closed, a morbid sound may be produced by any change of structure which permanently prevents the complete opening or shutting of the valves, and consequently the same sound may arise, either from changes of structure obstructing the advancing blood, or from changes permitting regurgitation; in other words, it is impossible to judge at the moment a sound occurs, which of these is its cause.

As to the motions of the heart, their derangement scarcely ever indicates the seat of disease with any precision.—Dr. Graves, *Dublin Journal. May*, 1842.

Pathology and Diagnosis of Cancer of the Lungs and Mediastinum.—After detailing many interesting cases both from others' and his own experience, Dr. Stokes sums up as follows:

That the facility of diagnosis mainly depends on the anatomical disposition of the disease.

That we may divide the cases with a view to diagnosis into those in which isolated tubercles exist, with the intervening tissues healthy; those in which simple degeneration occurs without ulceration, and with ulceration; and those in which a tumor of the mediastinum exists, causing compression.

That the diagnosis of the first case is difficult, from our being seldom able to avail ourselves of the signs of irritation and ulceration, so important in ordinary tubercles, and the fact of the equable distribution of the disease preventing comparison.

That in some cases of isolated cancerous masses, the diagnosis may be founded on the same general principles as that of acute phthisis.

That in simple cancerous degenerations of the lung, the principal physical signs are the gradual diminution of the vesicular murmur, without rale; its ultimate extinction; and the signs of perfect solidification.

That the evidences of perfect solidification are better found in this disease than in any other pulmonary affection.

That this form of the disease may exist, simply, or in combination with empyema, and may be secondary to cancerous tumors of the mediastinum.

That the sides may be symmetrical in this affection, and that either dilatation or contraction of the side may occur.

That the mediastinum may be displaced, even though the side be contracted.

That under these circumstances we may have the signs of perfect solidification, accompanied by imperfect pectoriloquism, and increased vibration to the hand.

That the mediastinum may be displaced and the liver depressed without protrusion of the intercostal spaces.

That the heart may be compressed and dislocated in this form of disease.

That the flattening of the upper part of the chest may occur from degeneration of the upper lobe.

That the absence of signs of ulceration is very characteristic of this disease.

That we have observed these signs in but a single case, and that the phenomena, though they might be produced by other diseases causing the same physical conditions of the lung, have never before been met with.

The cancerous tumors of the mediastinum generally co-exist with either degeneration of the lung, or isolated tubercles in its substance.

That they may be solid or fluid.

That they may co-exist with cancerous infiltration of the lung, or the deposit of cancer in the bronchial tubes.

That they are to be recognized more by the signs of the tumor, than by those of disease of the lung.

That dysphagia, tracheal stridor, feebleness of one pulse, difference of respiratory murmur from pressure on the bronchial tube, displacement of the diaphragm, and dilatation of the heart, may occur in this form of the disease.

That a cancerous tumor may exhibit pulsation with or without bellows murmur, but that pulsation is not always attendant on it.

That though the previous existence of external cancer may assist in diagnosis, yet that the disease may be all through internal, or the visceral precede the external cancer.

That the feebleness of pulsation connected with the extent of dulness may assist in distinguishing the disease from aneurism.

That in the advanced periods, as in aneurism, gangrene of a portion of the lung may supervene.*

* My friend, Mr. Mac Donnell, has shown, that from the anatomical disposition of the nutritive arteries of the lung, pressure upon any part of the main bronchus might cause the death of the lung. Of course, the liability to this is greater in the case of mediastinal tumors than in the simple degeneration. Dr. Greene has met with this gangrene, from the same physical causes, in aneurism.

That the following symptoms are important as indicative of this disease: pain of a continued kind; a varicose state of the veins in the neck, thorax, and abdomen; œdema of one extremity; rapid formation of external tumors of a cancerous character; expectoration similar in appearance to currant jelly; resistance of symptoms to ordinary treatment.

That though none of the physical signs of this disease are, separately considered, peculiar to it, yet *that their combinations and modes of succession* are not seen in any other affection of the lung.—Dr. Stokes. *Ib.*

Modes of administering Copaiva.—Copaiva is most generally administered by the mouth, but sometimes in the way of clyster. It is often given in too small doses. They ought not to be less than half a drachm; and an entire drachm, given twice or thrice a day, is the most appropriate quantity. As it is a nauseous medicine on account of the quality, permanence and adhesiveness of its tastes, various devices have been contrived for facilitating its administration. Some take it simply in water, which is stirred briskly so as to collect the copaiva in a globule in the centre. A better plan is to make it into an emulsion. For this purpose each drachm may be triturated with the yolk of one egg, to which are afterwards to be added half an ounce of some aromatic, such as peppermint or cinnamon water, and then as much simple water as pleases the patient; or the copaiva may be dissolved in its own volume of spirit of nitrous ether, and then agitated with twice as much mucilage and four times as much water. A favorite method of giving copaiva in recent times is in the form of boluses, made by inclosing the drug in thin capsules of gelatin, which are dissolved in the stomach. This ingenious plan was contrived a few years ago in Paris, by M. Mothes, and the process for making the capsules has been kept secret. They may be made in the following manner: The body of the capsule is formed by rounding very smoothly the end of a cylinder of iron or hard wood, four lines in diameter and a few inches in length, dipping half an inch of this end into a saturated alcoholic solution of soap kept warm; then dipping it, when the layer of soap has concreted, into a strong hot solution of gelatin once, or oftener according to the thickness desired, and, lastly, removing the capsule by a screwing motion when the gelatin is quite dry. The top is made in the same way, but shorter and a trifle wider; and when the body is filled and the top slipped over it, they are united by rubbing over the line of junction a camel's-hair brush moistened with hot water (Feder, in Buckner's Repertorium). The form of pill, which, however, is ineligible on account of its insolubility, is best attained by sprinkling one part of calcined magnesia into sixteen parts of copaiva in a flat plate, and letting the compound stand till it thickens sufficiently to be worked into the proper shape. For some time past it has become fashionable in Britain to use what are called specific solutions of copaiva; for which every druggist has his formula, and which have the advantage of presenting the drug in a state of solution and capable of being diluted without being decomposed. They are commonly made with solution of potash and spirit of nitrous ether, and the following is a convenient formula in use in this city: Boil gently for fifteen minutes two ounces of copaiva with two ounces and a half of aqua potassæ; add, when nearly cool, an ounce of spirit of nitrous ether; and when the mixture has been at rest for twelve hours, remove the intermediate liquid from the soapy sediment which falls and the lighter fluid which floats on the surface. In these

preparations a part of the volatile oil seems to be separated, and most of the resin deposited in the form of soap. M. Velpeau, not long ago, proposed to administer copaiva in the way of clyster instead of by the mouth. He found it very efficacious when given in divided doses to the extent of an ounce daily in the form of emulsion, to which a little laudanum was added to prevent its too speedy discharge from the gut. Many now prefer the pure volatile oil to any form for administering the crude drug; and though some call in question its superiority, and a few even doubt its efficacy altogether, I am satisfied from observation, as well as many reports from medical friends, that it is at least as effectual as copaiva, efficacious in less doses, and not so apt to occasion sickness. It is best given in emulsion, composed of equal parts of the oil of rectified spirit, peppermint or cinnamon water, and syrup or mucilage. Among the inconveniences attending the use of copaiva, sickness and vomiting are the most frequent. This effect may sometimes be prevented by multiplying, but diminishing, the doses; by altering the form, especially to that of solution; by uniting an aromatic water with it, or by directing the patient to chew a piece of cinnamon or nutmeg after each dose. Occasionally a sharp febrile attack is occasioned when the medicine has been taken for some days in gonorrhœa; but as this attack goes off with perspiration in twenty-four or thirty-six hours, and is commonly attended with arrestment of the discharge, it ought not to occasion annoyance, and scarcely requires any treatment. The doses of the preparations of copaivæ are, Copaivæ, m. xv., ad fl. scr. iv. Copaivæ oleum, E. m. ad m. xxx."—Dr. Christison, *in Dublin Journal.*

A Letter on the Cold Water Treatment of Priessnitz at Graffenberg.—"It requires great patience and perseverance to go through the cold water cure, and it is decidedly the most discouraging of any other. I shall now give you an exact account of what I have to go through every day, as well as all other persons who are able to bear it. The attendant comes into my room at 5 o'clock, A. M., with a wet sheet as cold as ice. I get up, while he puts a large, thick blanket on the bed over which he lays the sheet, which I have to stretch myself on, when he wraps it close all about me, and then regularly packs me up, so that I am unable to stir a limb, and then puts a soft down bed over all. I remain in that enviable state for one hour; my first impression was that I should be perished to death: but in about fifteen minutes I was in a most comfortable heat and generally slept until 6 o'clock, when the man enters and unpacks me, taking the sheet away, leaving the blanket close about me, when I then go to the bath room, which is situated but a few steps from my bed room, when I plunge in head and heels. I am then well dried, and after being dressed, I set out to walk until 8 o'clock, when I go to breakfast, first taking three or four tumblers of cold water, and about six more before night. Fancy about three hundred persons from all nations sitting down on bread, butter, and milk, there being no tea or coffee allowed; we have also abundance of strawberries, so that I assure you we all feel perfectly content, and enjoy it much: at 10 o'clock I must be in my room to undress and take a douche bath, which at first I did not get enamored with. The water is conveyed in wooden pipes from the mountain, and is as cold as possible. When that is over and I am dressed, I have but a short time to walk, as I must be in my room again at half past 11 o'clock, where a sitz bath is brought in, where I remain sitting for twenty minutes, after which I have till 1 o'clock to amuse myself in the best way I can, when the dinner bell rings

and we all congregate as we did in the morning. The room is a very fine one, being 120 feet long by 50 broad and capable of dining 500 persons, which number and more are here under cure, but a great many stop at Frywalden, a small and neat town one mile, and where Priessnitz goes twice a day to visit his patients. You would suppose I had the remainder of the day to myself, but not so, for at 5 o'clock I must again go into the wet sheet, and take the bath after, as in the morning. We meet at 8 to supper, which consists of the same fare as at breakfast; I am generally in bed by ten, but not before the man comes in with two long wet linen bandages, which he puts round my waist, and at the back of the neck, and between my shoulders, by way of making me *comfortable* for the night. You can fancy from the above how I have to pass my days here, that I have not much idle time on my hands. I did not mention that in addition, I have to swallow from twelve to fifteen tumblers of cold water. Graffenburg is a very high hill in the centre of three valleys, and what makes it very picturesque, it is all finely wooded at the top, and walks made all through, and on the sides, with numerous seats of all dimensions, placed for the company; and an amateur band comes from Frywalden twice a week to play, and on every Sunday there is a full band that plays all the time we are at dinner, and again after supper, when such as are inclined commence dancing."—*Dublin Journal of Medical Science.*

Dr. Byron *on Osteo-Sarcoma of the lower Jaw Bone.*—The following inferences are fairly deducible from what is known on the subject of osteo-sarcoma of the lower jaw-bone:

1st. The disease almost always commences in the cancellated structure of the bone, and has usually, if not always, a cystic origin, which it maintains, more or less perfectly, throughout its entire growth.

2nd. The disease is always (as far as recorded facts go) mild, under the ages of 28 or 30 years, and although it does not necessarily become malignant after that period of life, still it frequently does so; ultimately involving the soft parts in its neighborhood, and *uniformly* assuming the characters of carcinoma.

3rd. Osteo-sarcoma of the lower jaw-bone is almost always curable by free excision before the soft parts become involved in the disease, which they never do in the benign form of the disease, nor for some time, often several months, after it has changed into carcinoma, or the malignant form.

4th. That cancer of the face, especially of the bones, admits of cure more frequently than when seated in any other part of the human frame; cancer scroti, chimney sweepers' cancer, perhaps excepted.

5th. Ligature of the carotid artery is unnecessary previous to, or during the operation of disarticulation of the jaw-bone, as exemplified in Mr. Cusack's cases and mine.

6th. Stuffing the wound with charpie or lint seems to be in most cases unnecessary, and if permitted to remain in the wound beyond eight or ten hours, would most likely excite undue inflammation. No contrivance seems requisite to prevent a retroversion of the tongue upon the pharynx and epiglottis when the bone is divided posterior to the mental attachment of the digastric and anterior fibres of mylo-hyoidei muscles, as will generally be the case, nor will any contrivance prevent the trifling retraction of the muscles of the face occasioned by their division and want of support.—*Dublin Journal of Medical Science.*

Pathology of Typhus.—Rokitansky first boldly announced the doctrine that the typhous product is as peculiar, and stands in the same relation to the disease producing it, as the matter of scirrhus or tubercle does to the morbid affections producing these formations; and that, in the case of typhus, this cause is a *dyscrasia*, expressing itself by a tendency to the deposition, in certain localities, more especially in the ileum, of a substance as peculiar in its nature as the matter of scirrhus or tubercle. The authors, then, in drawing this alleged analogy between tuberculosis and typhus, point out the peculiar mode and character of the tubercular deposit, and affirm that precisely similar to this, is what Rokitansky teaches to be the typhous process. In one important particular they seem to differ. Tuberculosis is a chronic, typhus a rapid disease; in the former, moreover, there are always distinct local symptoms, and seldom general fever; the contrary, in the latter. But if we could conceive a variety of tuberculosis, equally rapid in its course as typhus, presenting no obvious local symptom, and attended with violent fever, the resemblance between this disease and typhus would be obvious. Now it so happens there *is* such a disease, which has been adverted to by some of the most recent writers under the name of acute tuberculosis. One case has been witnessed by the authors, which was characterized by great prostration, dry tongue, burning skin, quick pulse, stupor amounting almost to coma, without any indication of the peculiar disease being discoverable either by general symptoms or the stethoscope. This disease generally occurs in the course of chronic phthisis, but sometimes as an independent affection. The appearances, on dissection, are an almost universal dissemination of very small tubercles over the surface of the lungs, liver, kidneys, and generally also over the arachnoid membrane.

There are two theories as to the cause of typhus: the one of which is, that the disease is an essential one, without any local lesion to account for the symptoms, and that any appearances of local affection which present themselves are merely incidental, and neither cause nor characterize the disease. The other view is, that they are symptomatic of inflammation of the intestines, or of some other organ. Against the first view, it is urged that in some forms of the disease a lesion of the intestines, quite peculiar, is generally present; and although it is doubtful whether the disease can exist without the lesion, it is certain that the lesion never exists without the disease. This proves the lesion to be, if not the pathological cause, yet at least the anatomical symptom of the disease. On the other hand, it is urged that these local changes are not always present; that the severity of the disease does not correspond to their greater or less development, &c. Now Rokitansky explains these seeming anomalies, by holding that as the scrofulous diathesis may be present without the formation of tubercle, so typhous dyscrasia may exist with very little, or even altogether without typhous matter. The local lesion may be small or null, but the dyscrasia which the lesion indicates is great. Continental typhus is generally characterized by deposits, usually in the ileum; British typhus is more usually without local symptoms, and the authors cannot see how it is possible to separate them into distinct diseases, without the arbitrary division of two groups of morbid phenomena, much more closely resembling each other than is ordinarily seen in cases of any epidemic, as for example, scarlatina.—Drs. Drysdale and Russell, *London and Edinburg Monthly Journal of Medical Science*, No. iv. April, 1842.

Case of a Pin passing from the Appendix Vermiformis into the Bladder. By WILLIAM D. KINGDON, M.D., Physician to the Exeter Dispensary.—J. P. aged 7. In the early part of January, 1836, he awoke in the night time, complaining of great difficulty of micturition, not being able to pass more than two or three drops of urine at a time. In this state he continued, suffering little pain, and that only from the retention of urine, for upwards of a week; when one morning, making greater efforts than usual, he perceived something of a whitish color moving about at the orifice of the urethra, and taking hold of it, drew out a female worm (*ascaris lumbricoides*), which was followed by an immediate relief from the foregoing symptoms. No farther notice was taken of the circumstance until twelve or thirteen months afterwards, when the dysuria recurred and lasted nine or ten days, at the expiration of which term he had severe pain at the neck of the bladder, and said that there was something crawling in his penis; on examination, his mother discovered another worm, and drew it out as in the former instance, and with the same relief. In six months afterwards the same symptoms returned, but subsided in a few days on the evacuation of another worm. On the fourth of October, 1838, he complained of pain in the perinæum and at the extremity of the penis, which continued night and day for more than a week, when it entirely subsided on the passage of another worm. He remained free from pain until January 11th, 1839, when the same distressing symptoms again recurred with aggravated severity, and lasted for two or three days: during this period he was unable to emit any urine, and it was for the first time thought necessary to call in the aid of a medical practitioner, who, on introducing the catheter, drew off a large quantity of water; in the course of the same afternoon a worm crept from the urethra, and, as before, the little sufferer experienced immediate relief. The pain however recurred much more frequently, and the urine was obliged to be drawn off repeatedly. The boy's appetite began to fail, and he lost flesh rapidly. Various professional gentlemen were consulted, but he received no benefit, and gradually became worse.

On the 8th of February, 1839, he came under Dr. Kingdon's care in the Exeter Dispensary. He then complained of occasional pain in the perinæum and at the extremity of the penis; to make use of his own words, "Like as if there was a worm there, wanting to poke his way out." There was at times difficulty in passing his urine, but not requiring the use of the catheter. Under the use of sedative medicines, he was much relieved, but on the 12th of April the symptoms returned with more severity than ever. The catheter was introduced, and afforded instant relief; shortly afterwards a worm made its way through the urethra, as on a previous occasion. Up to this period the boy had always voided his urine through the natural passage; but subsequently *per anum*. The pain now recurred two or three times in the course of the day, but was alleviated as soon as he could evacuate the urine from the bladder; the pain was likewise lessened on pressing the perinæum with his hand; occasionally, too, a day would pass without any uneasy symptom. In the beginning of May, he was sounded, but no calculus was found. He became much worse, and frequently complained of the worm attempting to force its way out, and when in great pain a quantity of purulent matter oozed from the urethra. On the 20th of October he became blind; the pulse averaged 120; the countenance was anxious; the appetite for food very small, and

that only for liquids. Very little urine was voided for the space of a fortnight, and his pain was more severe than ever; for this he took one-eighth of a grain of belladonna every five or six hours, and with considerable temporary relief. On the 24th his sight returned, and he became so much freer from pain that his medicines were omitted. On the 9th of November he was entirely free from pain, and any urine secreted was voided through the natural passage. Two worms were brought away by stool, and a third was found in the bed next morning. Still he became gradually weaker, and on the 15th died.

Examination of the Body.—Emaciation. The whole intestinal canal discolored and presenting traces of inflammatory action, but the colon and rectum much more so than the small intestines; mesenteric glands enlarged; the *appendix vermiformis*, instead of occupying its natural situation, had descended into the pelvis, and about an inch from its termination was firmly united to the superior and lateral portion of the bladder a little above the junction of the ureter with this organ; the bladder itself was smaller than natural, and firmly contracted at its lower part upon a hard substance, which, on laying open the cavity, proved to be a calculus of the triple phosphate form, measuring in length one inch and six-tenths, and in circumference two inches and nine-tenths; the parietes of the bladder were much thickened, and on laying them open about half an ounce of purulent matter escaped; the calculus was firmly pressed upon the internal orifice of the urethra, preventing almost entirely the flow of urine in that direction; the mucous coat of the bladder was ulcerated in two places, and on the mesial side of the opening of the right ureter, and a little above it, were two fistulous openings, the septum between the two being very slight, communicating with the interior of the *appendix vermiformis;* both ureters were much enlarged and inflamed, and both kidneys larger than natural, and so completely filled with pus that scarcely a healthy portion was discernible.

The calculus being carefully divided, displayed in its centre a large pin, which, as Dr. Knight justly remarks, satisfactorily accounts for the singular appearances above detailed. The poor boy must have swallowed the pin, which, after traversing the small intestines, formed a lodgment in the *appendix vermiformis;* here the irritation caused by it must have given rise to inflammation and adhesion of the process to the exterior of the bladder, and subsequently, by ulceration, to the passage of the pin into the urinary bladder, where it formed the nucleus of the calculus discovered after death, though not detected during life. The fistulous communication with the bladder will likewise very readily account for the voiding of the urine from the anus, the natural orifice being closed by the calculus; and also for the passage of the worms through the urethra on the several occasions mentioned.

A curious case.—*Prov. Med. and Surg. Trans., in Med. Chirurgical Review.*

SURGERY.

Autopsy of the Duke of Orleans.—The following details, in which the most perfect confidence may be placed, have been furnished us. It will be seen that the prince died of an "*ecrasement*" * of the head, a name given by Dupuytren, in his clinical lessons, to the gravest and most complicated lesions produced by physical violence. In truth, this lesion comprehends concussion and rupture of the brain, with fracture of the skull, and in this case even luxation—that is to say, the separation of the sutures. The duke, therefore, presented an instance of all the possible injuries of the head.

This class of injuries, without division of the integuments, is usually produced by the fall of a beam, or a large stone; the passage over the head of a heavy laden wagon, or train of artillery; the fall of a horse upon his rider, and especially by a cannon ball striking the head obliquely. The same may also result from a fall upon the head from any great height. Now the carriage of the prince being quite low, the body must have been impelled with great force, as its weight alone could hardly account for so complete a destruction of the injured parts. The two forces must have been directed in such a manner that the head supported the whole of the shock, or else we must suppose an extreme fragility of the bones, as in the case of the unfortunate Bennati.

Examination of the body, forty hours after death.—Exterior. Commencement of putrefaction, especially on the abdominal and posterior regions of the trunk. Cadaveric rigidity of the limbs. Marks of contusions on the right cheek and eyelid and corresponding side of the forehead. Extensive sanguineous tumor on the posterior and right side of the head. Bruises on the knees, the left hand, and over the left trochanter. Sanguineous infiltration of the soft parts covering the superior, posterior and lateral regions of the head, more decided on the right posterior side than elsewhere. Separation of the left lambdoidal, squamous, mastoid, sphenoidal and spheno-petrous sutures. Numerous fractures, divisible into three series.

1. *Right side of Cranium.*—One fracture leading from the right side of the lambdoidal suture, crossing just above the posterior and inferior angle of the parietal, through the squamous portion of the temporal into the temporal fossa and terminating on the greater wing of the sphenoid bone.

2. *Left side of the Cranium.*—Another fracture extending from the left side of the lambdoidal suture, dividing the temporal from before backwards into two portions, separated the squamous portion of the temporal from the rest of the bone. (The squamous suture being ruptured as before mentioned, this part of the bone was attached only to the soft parts.)

3. A third fracture split the sphenoid bone transversely through the sella turcica. These different fractures and separations of the sutures, divided the cranium into two portions; an anterior and superior, including the superior parts of the two parietal, the squamous portion of the two temporal, the frontal, the ethmoid, and almost the whole of the sphenoid bones—a posterior and inferior, including the occipital, the lower portions of the two temporal and parietal, and the posterior part of the sphenoid

* It is impossible to translate this word conveniently; its meaning will be sufficiently evident.

bones—this division allowing of a motion of these two portions of the skull upon each other.

The brain was very voluminous: its anterior inferior portion, quite to the fissure of Sylvius, was reduced to a complete pulp to the full depth of the convolutions. A similar, though less extensive alteration behind and to the right of the brain. In the cavity of the arachnoid there was a sanguineous effusion to some extent. The subarachnoid tissue was extensively infiltrated with blood. A few drops of bloody serum in the ventricles. The spinal marrow and the vertebral column were perfectly sound.

Bloody effusion into the pleuræ. Lungs gorged with blood, but without any morbid adhesions. Heart and pericardium normal. Abdominal viscera healthy.—*Gaz. des Hopitaux.*

Cure of Traumatic Tetanus by Division of the Nerve supplying the wounded part. By Professor Pecchioli, of Siena.—Two cases are related in which this method was successfully employed. The first patient was a lad 16 years old, who had received a lacerated wound of the great toe of the left foot, and in whom after severe traumatic fever the signs of tetanus set in on the third day from the reception of the injury, the wound at the same time being highly inflamed, and the whole foot painful. The branch of the internal saphenus nerve going to the toe was divided a few hours after the tetanic symptoms were established; the pain in the wound immediately ceased, the convulsions became less and gradually disappeared, the fever continued only two days longer, and the patient was ultimately discharged quite well. The second case was that of a man 30 years old, who had received a wound from an axe across the left foot, and in whom signs of tetanus appeared on the fourth day. He, as is usual in Italy, had been profusely bled for the fever that followed the injury to his foot. On the day after the tetanic symptoms were completely established, the anterior tibial nerve was divided an inch above the wound, which was acutely inflamed. The symptoms subsided more slowly than in the former case, but they at last ceased, and he also was discharged cured.—*Bull. del Sc. Med. Marzo*, 1841, *in Br. & For. Med. Rev., July*, 1842.

On Fractures of the Lower Extremity of the Radius. By M. Velpeau.—M. Velpeau entirely contradicts Dupuytren's account of the ill consequences of this injury when treated as a sprain or a dislocation, and says that while he has seen many cases, which thus treated, have recovered with scarcely any deformity and no loss of motion, he has known many more which, though treated carefully with approved apparatus, have presented all the bad results of stiffness of the joint and defective power of the muscles. He believes that all the apparatus hitherto described do more harm than good; and says, the only useful mode of treatment is that with the dextrine bandage. After reducing the fracture he puts a compress, wet with camphorated spirit, round the wrist, and applies a dry bandage very lightly from the roots of the fingers to the middle of the arm. Over this he places graduated compresses reaching to the beginning of the metacarpus, and then an anterior and posterior splint of moistened pasteboard, which are moulded exactly on the parts they have to cover, and descend to the roots of the fingers. A bandage wet with starch is then rolled in a double layer, from the fingers to a short distance above the elbow; and, till it has dried, all the parts are kept in their places by two long wooden

splints. These last, however, are removed after six and eight hours, and the part left in its immoveable bandage, supported in a sling, for from twenty to thirty days, by which time the union of the fracture is generally perfected. There are but few cases, M. Velpeau adds, in which this method of treatment is not sufficient.—*Br. & For. Rev. from Gaz. des Hopitaux, Jan.* 1842.

Dislocation of the Thumb. By M. Radat.—This was a case of dislocation of the last phalanx of the thumb backwards. A soldier was running on a moist clay soil, when he slipt, and putting out his hand to save himself, his thumb struck in the stiff ground, and, as it was thus fixed, he fell over it. The symptoms were, considerable shortening of the thumb, retroversion of the phalanx in the direction of extension, so that it formed almost a right angle with the metacarpal bone, immobility of the joint, and a prominence on the palmar surface. It was reduced in the following manner: a piece of stout bandage was taken with a hole in its middle, through which the thumb was passed; the two ends then being carried forwards, were strapped close down upon the dislocated phalanx, and extension made by pulling them while another person held the metacarpal bone, and a third person pressed in the phalanx as soon as it was drawn nearly to a level of the joint.—*Br. & For. Rev. from Gaz. Méd., Mars,* 1842.

Radical Cure of Reducible Inguinal Hernia. By Dr. C. Haller.—Seven cases are given. The operation, as detailed in the first of these, was as follows: The patient, a man of twenty-three years, had ruptured himself in 1837. In 1840, when the operation was performed, his hernia, which was on the right side, had attained the size of a hen's egg, was soft, elastic, and contained a small knuckle of intestine. It made its appearance on the patient coughing or violently exerting himself, but receded on his assuming the horizontal position. The inguinal ring was so far enlarged as to admit the index finger. The rectum having been emptied by a clyster, the scrotal integument was invaginated in the inguinal canal, by the index-finger of the operator; while, with the right hand, by means of the *sonde à dard*, two stitches were made; the one as high as possible on the inner crus of Poupart's ligament; the other just over the angle of the two crura. A ball or cork of lint was introduced into the loop thus formed on the thread; traction was applied to one end of the thread, by which the lint-ball was carried as far as possible up the inguinal canal; the double threads were then separated, and tied down over two quills united by sticking plaster. Ice was applied to the seat of operation; the testicles were supported; the patient was ordered to bed, and put on low diet. There were slight pain and redness, but considerable swelling and hardness around the cylindrical aperture; and on the sixth day there were light febrile symptoms. As suppuration commenced from the punctures, the threads were loosened; the lint slightly withdrawn, and thus a free exit permitted to the matter. Warm applications to the part, daily ablution, and syringing of the invaginated integument, laxative clysters, constituted the treatment. The suppuration continued during fourteen days, and as it declined, the integument gradually subsided into the inguinal canal. On the 28th day from the operation, the patient, with the aid of an elastic band, could stand up, and move about a little. The inguinal canal was appreciably narrow-

ed, and even violent coughing or straining did not reproduce the hernia. In nine months the patient dispensed with the truss. In two or three of the other cases the cure was only temporary, the hernia again descending and carrying the integument before it. But in several instances the operation has been successful.—*Br. & For. Med. Rev., from Oesterr. Medicinische Jahrb., Marz*, 1842.

Operation for Artificial Anus.—The object of this paper is to show the superiority of Amussat's method of operation over that of Callisen, since by the latter the peritoneum is twice opened; by the former that membrane is left untouched. The author details a very interesting case of Amussat's, at which he himself was present. It occurred on the 20th of January last. A child, within a few hours of its birth, was taken to M. Larrey on account of some impediment to the exit of the fæces. A cul de sac, about an inch and a half from the anus, was detected. M. Larrey having tried without success the introduction of the catheter, plunged a trocar into the cul de sac (as was supposed), but no meconium followed the withdrawal of the instrument. The child was brought to Amussat; it was now forty-eight hours old. The abdomen was hard and distended, and the child's face dusky. It had vomited frequently. Dr. Amussat, on examination, was led to believe that about two inches from the anus there existed an interruption of the rectum, the calibre of the gut being at this point totally obliterated; and he was of opinion that it was totally impracticable to form an artificial anus either in the anal or coccygeal regions, but that an incision into the colon, in the left lumbar region, afforded the only chance of life to the child. Amussat's mode of operation has already been described in this Journal.

The case, up to the time of report (four weeks from the date of the operation), has done well. Tepid injections are administered every twenty-four hours, and the fæces escape readily through the artificial anus. A small tent is kept constantly in the aperture, which prevents the closure of it.—Mr. Parrott, *Med. Gaz.* No. xxvii., 1842.

Operation for Artificial Anus.—"Amussat," remarks Mr. Teale, "has shown that the failure of the operation on the dead subject was owing to the intestine being empty, and that in such cases as require the formation of an artificial anus, the colon is greatly distended, in which condition the layers of the peritoneum, forming its imperfect mesentery, are so far separated as to admit of the intestine being reached without opening the peritoneum. He has farther introduced an important modification of the operation of Callisen, by adopting the transverse instead of the vertical incision of the muscles." The operation, as performed by Mr. Teale, was as follows. The child seems to have died the sixth day after the operation: "The patient being placed upon a table, on the right side, with the face and abdomen inclining downwards, Mr. Teale made an incision through the integuments four inches and a half in length, extending forward from the outer edge of the sacro-lumbalis and longissimus dorsi muscles, midway between the lower ribs and the crest of the ilium, nearly parallel to the latter. The different layers of aponeurosis and muscle having been divided in succession upon a director, a considerable mass of fat was forcibly protruded at the wound. By the finger the packets of fat were detached, and the posterior surface of the colon was very readily felt, extremely tense

and elastic, and was soon exposed to view, its pale blue tint and translucent aspect contrasting strongly with the opaque white fat in the neighborhood. Two temporary ligatures were passed through the muscular and mucous coats of the colon, and a considerable quantity of air escaped through the punctures, which so far diminished the tension of the intestines, that Mr. Teale was enabled to pinch up a fold of it, and to open it with the scalpel, after which there was a profuse discharge of air and liquid fæces. The opening in the intestine was further dilated in a vertical direction by a probe-pointed bistoury to such an extent as to allow of the introduction of three fingers. The edges of the intestinal aperture were then fixed to the external wound by four points of suture, and the wound of the integument was united by two twisted sutures. The operation being completed, Mr. Teale and other surgeons present introduced the forefinger into the artificial anus, and ascertained that the colon immediately below the aperture formed a thickened corrugated pouch, from which no opening into the lower part of the intestine could be detected without instituting a more tedious search than was considered justifiable. The intestinal tunics forming this pouch, although much thicker and firmer than natural, did not communicate to the touch the indurated feeling of scirrhus. On passing the finger upwards into the descending colon, it was found to be capacious, its coats thin and elastic, possessing a perfectly healthy structure."—Mr. TEALE, *Prov. Med. & Surg. Jour.*, No. xxv., 1842.

Purulent Ophthalmia of New-born Infants.—M. Reville-Parise tells us, as the result of his experience in this disease, that leeches, blisters, and emollient applications to the eyes, are rather hurtful than advantageous; and that by far the best mode of treatment consists in the repeated instillation of a solution of the nitrate of silver—from two to four grains of the salt to an ounce of fluid—along with the exhibition of mild purgative medicines.

M. Cunier is equally favorable to the employment of the nitrate, but he prefers a much stronger solution, or, what he considers still better, an ointment made by blending the salt with lard. He advises that the action of the application should be confined chiefly to the conjunctiva of the palpebræ. M. Cunier states, as the result of his extensive experience, that in by far the greater number of cases of purulent ophthalmia in new-born infants, the disease is attributable to the direct application of leucorrhœal matter to the eyes during the act of delivery.

Dr. Durre of Halle employs an ointment—composed of nitrate of silver two grains, acetate of lead three grains, and lard three drachms—also blisters behind the ears, and a weak solution of the corrosive sublimate—one quarter of a grain to an ounce of water. He recommends also that frequent doses of calomel and rhubarb should be given at the same time. When the purulent discharge diminishes and gives way to one that is more watery, an eye-wash with the laudanum liquidum of Sydenham is one of the best applications.

Dr. Rupp tells us that he trusts chiefly to the use of a solution of the corrosive sublimate, one grain to the four ounces of water, as a topical remedy in the treatment of purulent ophthalmia in infants.

M. Schwarz recommends the application of strong tartar emetic ointment to the nape of the neck, to produce a full crop of pustules, with the view of drawing the morbid action from the eyes.—*Med. Chirurg. Rev., July*, 1842.

Scrofulous Ophthalmia.—M. Negrier has, in a very able memoir published in the Archives Générales for last May, directed the attention of the medical profession to the remedial powers of various preparations of walnut-leaves in scrofulous disease. The infusion and extract are the best forms for internal administration; and a very useful collyrium is prepared from the former, to which the tincture or the wine of opium should be added. Iodine or some of its preparations may be advantageously given at the same time.

The muriate of barytes, as an internal remedy, is highly spoken of by Dr. Payan of Aix: he considers it as one of the most valuable anti-scrofulous remedies that we possess; more especially in cases where much irritability or erethism exists in the eyes or elsewhere.

Dr. Otto has published several papers in Caspar's Wochenschrift to prove the efficacy of the extract of conium, administered in tolerably large and gradually increased doses.

Dr. Erdman, in Graefe and Walther's Journal, dwells at some length on the excellent effects of quinine in some of the most obstinate cases of scrofulous ophthalmia. His practice agrees in this respect with that of many of the British oculists.—*Ib.*

M. Stromeyer on Spasm of the Thumb in Writing.—The celebrated Hanoverian surgeon, M. Stromeyer, professor of surgery in the University of Erlangen, has published the reports of two cases of this very troublesome complaint, in which he tried the effect of dividing certain muscles of the affected thumb.

Before narrating these, we wish to allude to a few circumstances connected with what has been called by some, "the writer's cramp," as it would seem that more than one morbid state of the digital muscles or tendons is included under this appellation. In the Medico-Chirurgical Review for April, 1840, will be found a short notice of several cases, from one of the German Journals, of spasmodic tremor of the fingers in writing, the tremor in some instances extending up the fore-arm and arm, and accompanied with a greater or less degree of pain. In M. Stromeyer's cases, it seems that the thumb was almost exclusively affected; while in those related by professor Langenbeck, of Gœttingen, in a recent number of the Allgemeine Zeitung fur Chirurgie, &c., the affection appears to have consisted chiefly in a spasmodic contraction of one or more of the external muscles of the forefinger. In one case, he divided the common and proper extensors of this finger; but the result was anything but fortunate; and we understand that in two other similar cases still worse consequences ensued. We shall find that M. Stromeyer was more fortunate, at least in one of the following cases.

Case 1.—A gentleman, 32 years of age and of a delicate constitution, had for two years been afflicted with what has been called the *writer's cramp* (spasmus habitualis flexoris pollicis longi). It had become so distressing that he was quite disabled from writing with his right hand; all that he could do was merely to scribble a few almost illegible words; and often before he could do even this, a convulsive movement of the thumb came on, jerking the pen fairly from between his fingers and scattering the ink about. And yet, strange to say, he could use his right hand for doing any thing else without difficulty or inconvenience. While the patient was writing, it was obvious that the muscles of the thenar eminence were unu-

sually rigid—a circumstance which naturally suggested the idea that these muscles were the seat of the spasm. As every thing that could be thought of had already been ineffectually tried to relieve this most distressing affection, M. Stromeyer determined to divide the small muscles of the thumb, avoiding any injury to the tendon of the long flexor. The operation had certainly no good effect; for the spasm continued as bad as ever, and to this there was unfortunately added a loss of sensation in the palmar face of the thumb. M. Stromeyer was now convinced that the action of writing was dependent upon the long flexor of the thumb, and he wished to divide it; but the patient refused to submit.

Case 2.—A schoolmaster, 45 years old, robust and plethoric, has for nearly fifteen years been affected with the *writer's cramp*, which prevents him not only from writing, but also from playing on musical instruments. When he attempts to write he is obliged to steady the thumb of the right hand with the thumb and forefinger of his left one, and, even with this assistance, he cannot do more than write a few lines at most. When he touches the notes of a piano, the thumb is immediately drawn in towards the palm of the hand, and the second phalanx is powerfully flexed. And yet this patient can use his right hand in all other manual exercises without trouble or unusual fatigue. During the efforts to write, there is no apparent rigidity of the small muscles of the thenar eminence, as was observed in the preceding case. This circumstance, added to the *brusque* flexion of the second phalanx in playing upon the piano, induced M. Stromeyer to try the section of the long flexor muscle of the affected thumb; although this muscle did not seem at all contracted, nor to impede in any way the free movements of the thumb. The deep seat of the muscle made the operation somewhat difficult to divide it alone and without injury to any other parts. The patient being made to bend as strongly as he could the first phalanx of the thumb, at the same time that it was forcibly drawn outwards, M. Stromeyer inserted, about the middle of this phalanx, a narrow curved *tenotome* at the side of the tendon, down to the bone; the point of the instrument was passed under the tendon, and this was divided at a single stroke by moving the hand "en bascule." When the instrument was withdrawn, the sensibility of the thumb was found to be much impaired; the dorsal surface recovered it on the first, and the palmar surface on the fourth day after the operation: upon the latter day the power also of moving the second phalanx returned. On the 15th day the patient made an attempt to write and to play on the piano: he did not experience the slightest cramp, and found that he could do both acts with the greatest ease.

Experience alone can determine whether the simple section of the long flexor of the thumb will be found sufficient for the cure of this most distressing complaint, or whether it will be sometimes necessary to divide any other muscles likewise.

M. Stromeyer dwells at considerable length on the influence which division of the muscle of a limb exercises upon its sensibility. This influence is the more decided in proportion as the muscles are more powerful and active. Hence it is usually very marked in cases of accidental rupture of the tendo-achillis in robust persons: the limb becomes almost quite insensible, and this loss of sensation continues more or less until the two ends of the divided tendon become united. The return of sensibility is usually indicated by a feeling of prickling or creeping in the part. When

the muscles to be divided are considerably wasted and have lost much of their energy, the loss of sensation is generally much less considerable. These phenomena are especially remarkable after the section of the digital tendons: the loss of sensibility is usually very decided: it is sometimes however limited to the palmar surface when the flexors alone are divided. The sensibility usually returns—but in most cases not till then—with the returning motility of the member. It is very questionable whether this loss of sensation is dependent upon the division of any nervous filaments; if it were so, would it cease so soon as we observe it to do? Genuine paralysis from section of a nerve does not cease so rapidly. It is certainly not easy to explain the circumstances; and it may be wise therefore at present to state the fact, without endeavoring to explain it.—*Med. Chirug. Rev., from Bayerisches Med. Corresp. Blatt.*

Two Cases of Injury to the Head, followed by Symptoms of Compression produced respectively by Extravasation of Blood and Formation of Pus relieved by Operation. By Edward Cock.—Speaking of compression, Mr. Cock remarks:—It is almost invariably preceded or accompanied by concussion, and may depend on various causes—on depressed bone, on extravasation of blood, or, at a subsequent period, on the formation of matter within the cavity of the cranium; or again, on a combination of these causes. When bone is depressed, the appearances of external violence will generally indicate the seat of the injury, and suggest the propriety of making a further investigation; but this is by no means necessarily the case where compression ensues from extravasation of blood or from suppuration. A host of difficulties then surround the case, and embarrass the diagnosis. Blood may be poured out between the dura mater and the skull, or within the cavity of the arachnoid; or it may be effused over the surface or deeply within the substance of the brain itself. It is the first of these only that we can expect to relieve by an operation; and our success will then probably depend on the absence of any other important lesion to the contents of the cranium. The surgeon may be called on to determine, 1st, whether the compression is produced by extravasated blood; 2ndly, in which of the three situations, as regards the brain and its membranes, the blood has been poured out; and 3dly, the spot where the trephine should be applied, if an operation be deemed advisable. It not unfrequently occurs, that symptoms of compression become manifested, without any well-marked local indication of the seat of mischief; that the most careful examination fails in detecting the appearances of external violence; that the history of the accident is defective in affording us the desired information; that the surgeon is thus thrown entirely on the resources of his physiological and pathological information, and must decide, from the progress of the symptoms and the effects produced on the different parts of the patient's frame, whether the mischief is of such a nature, and so located, as to admit of relief by application of the trephine.

Mr. Cock relates two cases. They are both interesting. One was that of a man who, after a fall, had stertorous breathing, &c., and paralysis of the right side, with severe scalp wound over the left parietal bone. Mr. Cock cut down, but could find no fracture. He then proceeded to remove a portion of the bone above and behind the anterior inferior angle with a full-sized trephine. The moment the elevator had detached the bone, a gush of blood took place through the opening, and a clot was discovered

beneath. On passing the finger into the cranium, it entered an extensive mass of coagulated blood, which extended in every direction, as far as the finger could reach, and was evidently of considerable depth. The interior of the cranium, as far as could be felt, presented no irregularity or trace of fracture. A small quantity of the coagulum was removed with the handle of a tea-spoon, and the wound was then covered with lint dipped in water. The deep stertor of his breathing had ceased almost on the instant that the bone was raised, and he was evidently relieved by the operation. Suppuration ensued between the bone and dura mater, but the patient ultimately recovered most satisfactorily.

Mr. Cock thinks he has noticed that in every case of extravasation from rupture of the middle meningeal artery, the pure symptoms of compression are more distinctly and strongly marked than where they are occasioned by depressed bone, or effusion of blood in any other situation :—there is a death-like quietude of the limbs; the face is devoid of expression or muscular motion; the powers of the patient seem concentrated to produce the laborious heavings of the chest; while the lips and cheeks are mechanically puffed out, as the air is expelled from the mouth at each expiration. These signs, together with the deep loud tone of the stertor, are, I think, very characteristic. The pupil, also, on the same side as the extravasation, will generally be found dilated; although this was not the case in the present instance. These peculiarities may probably be attributed to the clot of blood being to a certain degree circumscribed in extent; to its great depth; and the pressure which it consequently exerts on the opposite surface of the brain, which becomes deeply impressed by it; whereas, when blood is effused into the arachnoid cavity, it is generally less in quantity and spreads over a much wider surface, producing more general and less local pressure. When extravasation takes place on the surface or within the substance of the brain, it is accompanied and indeed produced by lesion of the cerebral texture; which lesion is mostly indicated by paralysis, by irritation or spasmodic action affecting some particular part, by derangement of the pupils, or by other symptoms.

Mr. Cock adds :—A case very similar to that which forms the subject of this paper occurred a few years ago in the hospital; and its result gave me great reason to regret that I had not trephined the patient. On making a visit to one of the wards late in the evening, my attention was attracted by the deep stertorous breathing of one of the patients; and, on inquiry, I was informed it was a man who was then under treatment for apoplexy, having been admitted, in a comatose state, that afternoon. The history was briefly this. He had been brought to the surgery in the morning, in a state of syncope, having, as was reported, fainted in the street. Some stimuli were given him, under which he speedily rallied and walked away. In the course of the afternoon he was again brought into the hospital, in a state of complete coma with apoplectic stertor. The usual treatment—bleeding, calomel, &c.—had been practised without relieving his symptoms, and he was evidently in a hopeless state. The details of the case and the general appearance of the patient, induced me to suspect that he might be laboring under extravasation of blood beneath the cranium, the consequence of injury produced by a fall, the result of accident; and not, as had been supposed, the result of cerebral effusion. On examining the head, I discovered a slight bruise on the right temple; and determined to cut down on the bone in that direction, on the speculation of finding a

fracture. However, after exposing the angle of the parietal bone, no trace of fracture was discoverable, and I did not feel justified in proceeding further. He died in the course of a few hours; and, on examination, a minute fracture, hardly discernible on the exterior of the cranium, was found to traverse the lower extremity of the parietal angle. A large clot of blood had accumulated between the dura mater and the skull, poured out from the ruptured meningeal artery. There was no other injury whatever to the contents of the cranium.

Mr. Cock relates another case in which, after a kick from a horse, the frontal bone was fractured immediately above the nasal process, and a portion of brain escaped. There were no unpleasant symptoms for a fortnight, when the lad became comatose, and the wound was dry and unhealthy. This was succeeded by fever, irritability, screaming. On the 20th day he became hemiplegic on the left side. The loss of motion and sensation was complete in the upper extremities. The paralysis of the leg was less decided in character: the mouth was drawn to the right side. There was occasional convulsive twitching of the muscles of the arm and face. At times, he appeared to be laboring under all the symptoms of compression, but at intervals was perfectly sensible. He had been salivated. He was leeched.

Next morning, the convulsive attacks, which had manifested themselves the day before, were renewed with increased violence. The muscular spasm and twitchings of the left arm and left side of the face became incessant and intense: his pulse quick and feeble, but irregular. These symptoms continued, without intermission, for some hours; and in the afternoon, the chances of his recovery seemed hopeless, unless some relief could be obtained.

"As the progress and nature of his symptoms were such as indicated the formation of matter either within the substance of the brain or between the membranes, I determined to make an attempt to discover the seat of mischief, by removing a portion of the frontal bone. With the Hey's saw, I cut through the bone, in two convergent lines carried upwards from the track of the fracture for about the length of an inch, where they met. A triangular piece of the os frontis was thus removed, just on the right side of the median line. The dura mater, which was now exposed, bulged slightly forwards, and was devoid of pulsation: I divided it freely, by a crucial incision. A small quantity of semi-opaque, dirty-looking serous fluid appeared to escape from under the membrane; but its character and quantity could not be very accurately ascertained, as it became mixed with blood from the dura-matral vessels. The surface of the brain, now brought into view, was disorganized and broken up, apparently in that stage of softening and disintegration which precedes the formation of an abscess. I passed a director for a short distance through the pulpy tissue, in hopes of discovering a collection of pus; but failing in this, considered it best to abandon the search, and remain satisfied with having removed any impediment that the bone might have offered to the future escape of the fluid, trusting that Nature would now accomplish the rest. The wound was covered with warm-water dressing. He complained loudly during the operation, which seemed to have the effect of rousing him from his stupor. Shortly after, he again became convulsed; and his left arm, the left side of his face, and chest, continued to be violently agitated for about two hours: he then became tranquil: and had had no relapse when I again saw him, at 11 o'clock the same evening.

By the 24th day, healthy-looking pus was discharged from the opening in the brain. By the 26th day, he could move the left arm and leg freely. Feverishness now came on again. On the 28th day there appeared swelling of the left upper eyelid. It was evident that the eyelid was protruded by a collection of fluid within the orbit, and situated behind the tarsal cartilage, as there was no infiltration into the cellular texture of the lid itself. A free incision was made through the tarsus, which allowed the escape of a quantity of matter similar in character to that which had been evacuated from the opening in the brain. The symptoms of irritation speedily subsided; and the next day, on introducing a probe through the opening, I could distinctly feel a fissure extending across the roof of the orbit, through which the matter had probably found its way from the cavity of the cranium. A fungous cerebri, which formed, was repressed by gentle pressure aided by an occasional touch of caustic, and the patient got quite well."

Both these cases are creditable to Mr. Cock.—*Med. Chirurg. Rev., July*, 1842.

M. Sedillot on Surgical Instruction.—M. Sedillot,—after having distinguished himself as an energetic and enterprising military surgeon, first in Poland, during the last revolution in that unfortunate country, and subsequently in Algeria,—has been recently appointed the professor of surgery in the hospital at Strassbourg. The following passages are taken from the introductory lecture to his first course.

Unity of Science.—"The various divisions of Science exhibit so many points of mutual contact, or rather they are so intimately and necessarily united together, that it is scarcely possible to study any one apart from the rest; all affording reciprocal explanation and enlightenment.

Mechanical and chemical philosophy serves to initiate the mind in the general laws of nature, and to disclose the operation of the chief external agencies which modify the functions of the living system.

General and descriptive anatomy reveals to the surgeon the unity of the entire organization; the anatomy of the different regions of the body guides his hand; and pathological anatomy directs his judgment amidst the numerous morbid changes of the various tissues and organs. External pathology reveals the wounds and other lesions of outward parts; internal pathology those of the hidden parts; while the study of materia medica and of operative surgery supplies him with the means of relieving or curing them."

Advantages of Early Clinical Study.—M. Sedillot is a zealous advocate for the student attending on hospital practice from the very commencement of his *curriculum*.

"I do not dispute," says he, "the advantage of knowing theoretically the facts which we have to observe; for the mind in this way seizes upon all the experience of former times, and there is certainly some truth in the paradox that 'we see well only those things which we know.' I will even admit, and that willingly, that the rapidity of a student's progress is generally commensurate with the instruction which he has previously acquired.

But this is not the question; to put it forth in these terms is really to solve it. What we wish to know is whether the student, who does not begin his attendance on clinical practice till the third or fourth year of his studies, is likely to be as adroit at the diagnosis and treatment of diseases

as he who has regularly attended to it from his first matriculation. The answer cannot be very doubtful; for the art of observing *ne s'improvise pas;* it needs long and assiduous practice; and if it does not require a previous knowledge of general science, your literary and scientific diplomas sufficiently vouch for your competency to observe the leading phenomena of disease as revealed at the bedside of the sick. The majority of our students prefer, however, to follow the programme laid down by the university, and usually pass the first four examinations before commencing their clinical studies. The result of this practice is, that generally the fifth examination is *très faible.*

During three years of service which I spent as an aggregate of the faculty of Paris, I have repeatedly observed that the students, who may have gone through their early examinations with eclat, scarcely knew how to interrogate a patient, and frequently mistook the most obvious symptoms and indications of a well-marked case. The diploma of doctor is, however, awarded to you upon the *ensemble* of your knowledge, and you are left to acquire subsequently from actual practice the experience in which you may be deficient; but in your efforts to obtain this, you are necessarily exposed to the most cruel errors, and often run the risk of compromising your future peace and your success for life.

I readily admit, that in the short space of four years—the period that is judged sufficient for your medical education—the general study of the various branches of science, which compose the *curriculum*, must take the precedence of that of special facts; for the latter will be the business of your whole after-life. I do not advise you to neglect any of the courses prescribed; but it seems to me that clinical instruction might almost always be blended with their study at the same time. Few students begin their labors early in the morning; and perhaps all of you will admit that, in some way or another, you lose one, if not several hours in the course of every day, which might well be devoted to observation in a hospital. However this may be, you may be assured that this is the only sure manner of acquiring that ready tact which theory can never communicate.

The surgical *coup-d'œil*, which enabled such men as Dessault, Boyer, and Dupuytren, to discriminate from one end of a ward to another the cases of their various patients, belongs, no doubt, in a great measure, to individual aptitude; but still it mainly depends upon the constant study of actual disease. It is only by the union of great personal experience in the observation and treatment of disease, and of due acquaintance with the recorded experience of others, that the student can ever hope to follow in the footsteps of these great men. Never forget that, whatever may be your destiny, you will ever retain the remembrance of those facts and precepts which have been presented, so to speak, to your eyes, and in which you have taken a personal part, while it will require a constant effort to bear in mind such as have been addressed only to the ear. The maxim of Horace applies, in a special manner, to medical studies:—

> *Segnius irritant animos demissa* per aures,
> *Quam qaæ sunt oculis subjecta fidelibus.*

It is almost unnecessary to dwell upon this subject, as its truth is abundantly testified by the circumstance that your very co-students, in whom you have most confidence, are just those who become *internes* of the hospitals; and this situation, you are aware, can only be obtained after much

diligence and long clinical attendance. An error, into which many of you are apt to fall, is from an over-zeal to observe and take notes of too many cases at the same time. This is not the right way to acquire a practical knowledge of diseases. While taking a general survey of all, let your attention be particularly directed to three or four cases at a time, reading at your leisure upon the diseases in question from such works as the treatises of Sabatier, Boyer, Begin, Roche and Sanson, or of M. Vidal."

Influence of Constitution on Surgical Diseases.—"Persons of the melancholic temperament—which is owing to a predominance of the venous system—are more subject than others to various sanguineous effusions; and one of my colleagues, M. Judas, has published in the Gazette Medicale an interesting memoir on sanguineous tumors of the labia, which he has found to be of frequent occurrence in women of this temperament. Swellings of the glands are rather rare in those of a plethoric or of a nervous constitution, but are very common in lymphatic individuals. It has been observed that persons, who are wholly uneducated and whose encephalon is but ill developed, are more than usually liable to be affected with typhus, and to sink from the effects of it. Again, the more consistent and plastic that the blood is, the less tendency there is to reactions of any sort. The Russian soldiers,—in whom hebetude of mind, a strong and gross diet, a cold climate, a native want of cleanliness, render the blood so thick that it adheres tenaciously to the fingers of the operator—are but little subject to fever after the most severe wounds. In the greater number of those, on whom I operated during the Polish campaign of 1831, the pulse was quite normal on the fifth or sixth day after the operation, and their appetite was as good as ever. On the contrary, in men who are much addicted to study, or who are of a highly irritable temperament, the blood is usually thin and not sufficiently viscid."

Every Surgeon has his own Methods.—"You will find it very useful to follow the clinical courses of several surgeons; for every one has his own favorite views and favorite methods of treatment. By taking notes regularly of the practice of each, you will gradually become capable yourselves of judging of their respective merits, and you will acquire an exactitude and a precision of knowledge, that will be most valuable to you through life. It is often very difficult to ascertain the exact relations between the cures obtained and the methods of treatment employed; it is only by an accumulation of results, carefully and cautiously collected, that we can judge of the superiority of one method over another."

Influence of External Circumstances on Wounds.—"In the last expedition to Constantine (in Algeria), I cured a great number of the wounded, in whom immense purulent collections had formed in the lower limbs, by prescribing freely brandy, coffee, fresh meat, &c., and by the use of warm dry applications. Be it remembered that the poor fellows had been lying in the mud for several nights, under a bitter cold atmosphere, and that their rations also had been curtailed in consequence of the deficiency of provisions. (A similar remark was made by Larrey and other surgeons of the French army during the disastrous campaign of 1814 in Germany.) Many a case of purulent affection may be prevented by the timely administration of an emetic, and the use of a nutritious and even a moderately stimulating diet. I wish particularly to guard you against the practice of specializing or localizing diseases too much, and of supposing that, if you treat a wound locally well, you have fulfilled all the indications of enlightened

surgery. Far from it; the good practitioner will never forget to watch the state of the general health, and endeavor to maintain the equilibrium of all the functions of the system."

Familiarity between Students and their Teachers.—"I shall take this opportunity of stating that it will always give me great pleasure to hear the opinions of any of you upon a case where they differ from those which I have formed of it. In this respect I wish to imitate the example set to hospital surgeons by that great master of our art, the late Baron Dupuytren. Although his professional and scientific susceptibility was excessive, he was not above accepting advice from whatever quarter it came. I remember a striking instance of this feature of his character. A patient, who was received into the Hotel Dieu, was found on examination to present the symptoms common to a dislocation of the shoulder and to fracture of the cervix of the humerus. After delivering a most able lecture on the diagnostic symptoms between these two injuries, he confessed that in the present case he was a good deal puzzled, and that he intended to wait a day or two before determining the point. On the morrow he received a long letter from one of the pupils of his clinique, in which the writer not only proved by very satisfactory arguments that the case was in truth one of luxation, but pointed out the best means of reducing it.

Dupuytren read the letter before his class, summoned the patient before him, discussed each argument separately with his youthful opponent, whom he had called to his side, and with his assistance reduced the dislocation amidst the loud plaudits of all the pupils."

Injunction of Kindness towards Patients.—"You are about," says M. Sedillot with equal beauty and justness, "to find yourselves in contact with fellow-creatures afflicted with two of the greatest ills of humanity, pain and distress. They may often seem to you to be susceptible, irritable, and even unjust; but do not forget that they are your brethren in equality, and that the harder their situation is, the more it should command your sympathy and kind respect. Learn to forego the mere claims of science, and do not regard the unfortunates before you as if they were only objects for professional observation. Avoid especially the slightest indiscretion of language; and let the expression of your features, the sound of your voice, and every, even the most trivial, act of your behavior, always testify your entire confidence in the resources of nature, and in the remedial means of art. The unguarded disclosure of danger, or the allusion to possible accidents, has on many occasions produced the most disastrous consequences, and changed a case of promising success to one of rapid and irremediable danger."

Impolicy of explaining too much to Patients.—M. Sedillot condemns the not unfrequent practice of explaining to patients, in the event of an operation being necessary, the relative dangers attending its performance, and those of leaving the disease to itself.

"The surgeon ought not ever to dread the responsibility of his opinions or of his acts, if he obeys the dictates of a conscientious conviction: by acting otherwise, he erroneously supposes that he escapes the consequences of his conduct, and moreover he often greatly compromises his chances of success. By revealing to a patient the chances of recovery and the dangers which necessarily attend an operation, you plunge him into a state of dreadful anxiety, and in truth you leave him only the mockery of a free choice. How is it possible for any uneducated person to judge of a

matter, of which you cannot explain to him even the very simplest elements? In my opinion, the surgeon's duty is, after basing his judgments on science, to perform without hesitation what appears to him to promise the best hopes of success to his patient, who will have much more confidence in his medical attendant, and more cheerful expectation as to the result, than by adopting a contrary practice."—*Med. Chirurg. Rev., from Journal des Con. Med.*

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

An Inquiry into the Results of Puncture of the Head in Cases of Chronic Hydrocephalus.—This is a most elaborate paper, highly creditable to its learned author, and claiming the perusal of all likely to be called on to treat the disease which is the subject of it. It contains a tabular analysis of fifty-six cases of hydrocephalus in which puncture was performed, giving in each case the sex, age, symptoms before puncture, size of the head, number and date of the punctures, quantity of the fluid evacuated, subsequent progress of the case, date of the report, and lastly the authority. The following extracts give a brief summary of the principal results of the inquiry and the conclusions deduced by Dr. West.

The writer has found mention of 63 cases of chronic hydrocephalus in which the cranium was punctured. In two of these cases, however, the puncture was accidental, while in five instances the results were not such as would justify classing the cases either as fortunate or unsuccessful. Fifty-six cases then remain, in 40 of which the patients died, while in 16 they are alleged to have recovered; or, in other words, the proportion of recoveries to deaths was as 1 : 2·5, and as 1 : 3·5 of the total cases. These results, though considerably less favorable than those obtained by Dr. Conquest, still appear at first sight to afford ample justification of the operation; but the particulars contained in the table will, perhaps, in some degree modify such an opinion.

It would have been interesting to have been made acquainted with the circumstances to which the brilliant success of the operation in Dr. Conquest's hands is attributable. But unfortunately, no data are given in 15 out of 19 cases, beyond the mere statement of the number of punctures, and the quantity of fluid removed. The age of the patient, the duration of the disease, the symptoms attending it, the size of the head, and the condition of the intellectual faculties before and after the operation, are not noticed. We are left in perfect ignorance as to the time which elapsed before each patient was reported as cured; and yet, on grounds so slender, an impression has got abroad in this country and elsewhere that paracentesis capitis is a means to which recourse may be had in cases of chronic hydrocephalus, with a well-founded expectation of success.

In 30 of the 40 cases (in which the operation was unsuccessful), the interval which elapsed between the performance of the operation and the patient's death is stated; and it appears that the deaths after the first puncture were as follows:

Deaths.			Average duration of life after the puncture.
6	within	4 days	53 hours.
6	"	14 days	6 days 8 hours.
3	"	1 month	20 days 16 hours.
9	"	3 months	56 days 10 hours.

Of the remaining 6, only 1 survived the puncture 6 months; and the average duration of life in each of these was 3 months 4 days 12 hours. In 18 of these patients, the operation was performed more than once; but in no instance did the children survive the last puncture more than 35 days, while the average duration of life was 12 days 22 hours.

The instances, then, in which life was prolonged by the operation appear to be very few, and the cases in which any reasonable prospect of the patient's recovery existed after a week had elapsed from the first performance of the puncture, are still fewer. The table shows that sometimes the puncture was followed by an almost immediate aggravation of the cerebral symptoms, and by death. Usually, however, a degree of apparent improvement followed the puncture, but the fluid soon collected again, and less marked relief followed the second operation. With its repetition the quantity of fluid increased, and while the size of the head continued undiminished, or even grew larger, the body of the patient became emaciated: and death either took place from exhaustion, or cerebral symptoms came on, and life was terminated by coma or convulsions.

If the symptoms observed during life yield little encouragement to resort to the operation, the appearances disclosed after death afford a powerful argument against it. An account is given of a post-mortem examination of 26 cases. In every instance fluid, sometimes in considerable quantity, was contained within the ventricles or in the cavity of the cranium, and the substance of the brain was softened and attenuated. But, in addition to these appearances, there existed in 16 cases, serious organic disease or malformation of the brain itself, though no symptom during life had betrayed the existence of a condition which mechanical interference could only aggravate.—Charles West, M.D., *British and For. Rev., from Med. Gaz., April* 15, 1842.

Scarlet Fever, from the Medical Report of the Military Asylum, Chelsea, England.—Scarlet fever is frequently a very fatal disease, particularly to children, yet it will be seen, that within the period comprised in this statistical account, out of 139 treated, only one case proved fatal. I consider this fortunate result to be chiefly owing to the prompt medical assistance afforded, and the treatment not being interfered with by the fears and prejudices of parents and relations. How frequently is the call for medical aid deferred until the disease has gained an ascendancy which the most skilful employment of remedies cannot afterwards overcome.

In *scarlatina anginosa* I am convinced that early medical treatment is of the highest importance. I think it right to mention that I have found cold affusion, or sponging with vinegar and water, according to circumstances and the season of the year, very beneficial. I did not find the children much frightened at the cold affusion as employed here, which is in the following manner.

The child, when covered with the scarlet eruption and the skin very hot and dry, is made to sit on a small stool placed in the middle of a large washing-tub, when about a gallon of cold water is quickly poured over him; he is then wiped dry and replaced in bed. This is in most cases followed by sleep, and an abatement of the heat of skin and fever. I have never seen any harm result from this treatment, but it should be employed in the early stage of the disease.

It is useful to have the vapor of boiling vinegar dispersed through the ward or apartment, and for this purpose we use an earthen-ware ap-

paratus of a conical shape, with a lamp, &c., which is easily procured in London.

I have before observed that the œdematous and dropsical affections which occasionally follow scarlet fever during the state of convalescence, more frequently occur after the milder attacks of this disease.

In an account of the scarlet fever which occurred among the children in George Heriot's Hospital, Edinburgh, in the winter of 1832–33, given by Mr. Wood, surgeon of that institution, and published in the Edinburgh Medical and Surgical Journal of January, 1835—he states "that out of 44 patients between the ages of 8 and 14 years, *nine* were afterwards affected with dropsical swellings." A much greater proportion than has ever occurred here; but he corroborates my observation by stating "that the patients who became affected with dropsical symptoms were not those who had been most severely ill of the primary fever."

Mr. Wood also says, that of the 44 boys who were affected with scarlet fever, "*five* were supposed to have had it previously—but the information procured on this subject is vague and unsatisfactory."

I have never seen an instance in this institution of scarlet fever occurring twice in the same individual.

As scarlet fever is highly contagious, it is here an invariable rule not to permit the convalescents to mix with the other children for a month, and not until *all desquamation of the skin* has entirely disappeared. Tepid baths are used occasionally during convalescence, in order to restore the healthy functions of the skin. Great care is also taken that the return to the usual full or animal diet should be gradual.—*Med. Chir. Rev., July*, 1842.

Influence of Age upon Pleurisy in Children. From a Review of a Thesis by Dr. Baron, Interne of the Hospital of Enfans Malades, Paris.—From considerable experience, M. Baron concludes that pleurisy is much more frequent in children from two to fifteen years, than in the first two years of life. In 3,392 autopsies of children from one to two years old, he found 205 indisputable pleurisies, and 79 pleuritic changes which were probably not inflammatory. In 181 autopsies of children from twelve to fifteen years of age, he found 158 pleurisies and 13 pleuritic alterations. With respect to the comparative frequency of pleurisy at the different epochs comprised between birth and the fifteenth year, it sets in more frequently during the first five days, than during the period included between the fifth day and the first month; it diminishes in frequency after the first month up to the second year; from the second to the third year it is much more frequent than from the third to the fourth, and more especially from the fourth to the fifth. It is still more rare during the following years, chiefly between the thirteenth and fourteenth year.—*Ib.*

On the Treatment of Favus (*Porrigo*).—The treatment of favus may with advantage be divided into a *local* and a *general* one, in both of which there are several rational indications to be fulfilled.

The *local treatment* presents three indications, viz.:

1st. To clear the scalp of all scabs and crusts, and to attend scrupulously to cleanliness.

2nd. To remove the hair from the diseased follicle.

3rd. To set up a new action on the part affected.

The first indication is readily fulfilled by the application of poultices continued for two or three days, or by means of lotions containing the diluted hydrochloric acid in the proportion of an ounce to the pint of water, after the hair has been cut short. Either of these means will suffice for the object in view, but the poultices are preferable, as they are always most convenient in their application and most speedy in their action. If, however, the crusts be very thick, they may first of all be loosened by the acid lotion, which acts by dissolving out their earthy parts, and then be separated by means of a large, thick, soft bread or linseed-meal poultice, which will effectually clear the scalp. In the course of the treatment, cleanliness must be attended to by washing the head at least once a day with soap and water.

The second indication to be fulfilled in the treatment of favus, is the removal of the hair from the diseased follicle, and unless this be accomplished it will be in vain that we attempt a cure; for, as Rayer has justly observed, this is as essential in the treatment of favus as is the removal of the nail in certain varieties of onychia; and almost every plan of treatment that has been recommended has had this for one of its chief objects.

To effect this purpose a pitch cap or plaster used formerly to be employed, by which means the hairs were forcibly torn up by the roots. Fortunately this horrible barbarity, which was a disgrace to medicine, has now no advocate, although it was the common practice even at the commencement of the present century.

Various corrosive substances have been at different times, by the older writers especially, recommended as depilatories; but it is to the Messrs. Mahon that the credit is due of having first extensively employed milder and not less efficacious means for this purpose. In consequence of the success attending their method, which is attested by Rayer and others, it has been adopted very generally in the French hospitals, the enormous number of 39,719 cases of disease of the scalp, of which a large proportion was favus, having been treated by these gentlemen in the course of one-and-twenty years.

They begin their treatment by cutting the hair at a distance of two inches from the scalp; the scabs are then removed by means of emollient applications and of poultices, and the skin freed from all impurities by means of soap and water. After this has been repeated for several days in succession, an ointment composed of lard and a depilatory powder, the composition of which is kept secret, is rubbed in every second day on the parts that are affected. A fine comb is then passed through the hair on the days on which this preparation is not used, and thus the hair is got rid of gradually and slowly, but without pain. After this plan has been continued for a few weeks, a small quantity of the powder is scattered through the hair, and the combing proceeded with. This is persevered in, according to the severity of the disease, for a longer or a shorter period, and has been found to succeed when every other mode of treatment has failed. It causes no pain, is devoid of danger, and does not prevent the hair from growing, provided the bulbs have not been destroyed. The composition of the ointment and powder is kept a secret, but according to Chevalier, who has analyzed them, they consist of slaked lime partly carbonated, of a little silica, alumina, and oxide of iron (probably impurities in the lime), and of subcarbonate of potass; their activity evidently depending upon the lime and subcarbonate of potass they contain. The chief causes of the

success of this treatment seem to consist in the removal of the hair by gentle means, and by the continued attention to cleanliness which is enjoined, aided, no doubt, by the peculiar action which the salts of potass appear to exert upon the scalp.

For the ointment* of Mahon we may substitute one composed of ʒj. of carbonate of potass to ʒj. of lard, or else a lotion containing ʒij. to ʒiij. of the same salt to ʒvj. of water, either of which, if used in the way recommended by Mahon, will be found to act as mild and sure depilatories.

For the fulfilment of the third indication, namely, that of setting up a new action in the affected part, a vast number of topical applications have been recommended by most of the writers on the diseases of the skin; almost every medicinal substance, indeed, whether mineral or vegetable, of any activity whatever, having found an advocate. The very fact, however, of such a variety of formulæ having been propounded for this purpose, shows how imperfectly the treatment of this disease was understood, and how very inefficiently it must have been conducted.

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*M. Petel recommends the subjoined ointment and powder:

Soda (of commerce)	60 parts.
Slaked lime	4
Lard	120

Mix together for the ointment.

Quicklime	120 parts.
Powdered charcoal	8

Mix for the powder.